AMERICAN VOCATIONAL JOURNAL

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VOLUME 22 • NO. 8 • OCTOBER, 1947

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✓ The Farm Mechanics Shop
✓ Inventorying Supplies
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American Vocational Journal

OFFICIAL PUBLICATION OF THE AMERICAN VOCATIONAL ASSOCIATION, INC.

OCT. 1947

VOLUME 22

NUMBER 8

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PUBLISHING SERVICES

Furnished by Scholastic Magazines, 220 E. 42nd St., New York; DON LAYMAN, Publisher; GEORGE H. FERN, Mng. Editor; HARRIETT H. CARR, Editorial Asst.; RICHARD WHITEMAN, Advg. Mgr.; MARY JANE DUNTON, Art Editor.

The American Vocational Journal is published monthly, September to June inclusive, by the American Vocational Association, Inc. Entered as second class matter January 29, 1945, at the post office at New York, N. Y., under the act of March 3, 1879. Contents are copyrighted by American Vocational Association, Inc. All members of the American Vocational Association, Inc., receive the Journal. Membership applications should be submitted through State Vocational Association secretary. Subscription prices for libraries and non-members $2.00 a year, single copies 25¢. Executive offices at 1010 Vermont Avenue, Washington 5, D. C. Advertising, editorial and production headquarters are at 220 East 42nd Street, New York 17, N. Y. This is the official publication of the AVA.

American Vocational Association, Inc.

American Vocational Association, Inc., advances American Education by developing economic competence of youths and adults. The Association promotes the professional interests of persons engaged in vocational and industrial arts education. It encourages full-time and part-time programs in these fields: Agriculture, Home Economics, Business and Distributive Occupations, Industrial Arts, Industrial Education, Rehabilitation, and Vocational Guidance.

★

A Philosophy of Education

IN order that anyone may do his best work in any area or any any level in education, it is necessary that he have a philosophy of education that covers every area and every level of the total educational program.

No one in vocational education would say that there should be less of education on the college level. Few, if any, would say that there should be less of anything that is offered in our high schools. However, those of us in vocational education feel that there should be a more careful selection of students to pursue the various offerings. In a high school whose program is comprehensive enough to meet the developmental and occupational needs of all the young men and women who attend, there must be offerings designed to meet individual interests and occupational needs.

No one in vocational education would have a young man or woman go into vocational education whose purpose and plan lead him into some other field, provided his purpose and plan has reasonable assurance of success.

Few will challenge the statement that we face a situation in which many thousands of young men and women go to high school, and a lesser number but still a respectable number, go to college without any well-defined purpose or plan. They go to school because they are sent.

Experience has taught that vocational classes arouse an interest, and provide a challenge, and furnish a purpose, and give meaning to education for those who have just as good minds and are just as capable as those who choose another road.

In order that those who choose vocational education may not be disappointed—in order that they may get full value received for their investment in education—it is incumbent upon us who are responsible for the development and promotion of vocational education to see to it that vocational education is kept vocational. It is incumbent upon us to see that vocational education be made practical and usable. To be practical and usable, it must be modern and flexible. It is our responsibility to maintain high standards and insist upon proper recognition of the value of vocational education to those who choose it.

All these things can be done without doing violence to anything that is offered anywhere in the whole educational field. It can be done if we are able to integrate without diluting, if we are able to cooperate without compromising, if we are willing to exert ourselves to the full extent of our abilities to recognize good education wherever we find it.

C. M. MILLER
State Director of Vocational Education, Kansas

★ ★ ★

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President Julian McPhee (center) of California Polytechnic College discusses a sheep project with two students. The project system enables students to borrow from a $90,000 revolving fund to finance enterprises operated on a commercial basis. Many students work their way through college by doing work closely connected with their major instructional course on campus.

The Los Angeles AVA Convention

Interesting Programs, Scenic and Historical Attractions This Year

L. H. DENNIS
Executive Secretary
American Vocational Association, Inc.

AMERICAN VOCATIONAL ASSOCIATION conventions always have been interesting and challenging. These conventions give an opportunity for vocational and industrial arts leaders from all over the United States and Canada to get together for exchange of ideas, to learn of new plans, and to renew associations. Each convention is somewhat different from preceding conventions because of national conditions at the time, new trends and developments, and because of local environment and arrangements. The Los Angeles convention will be another different AVA convention.

In addition to stimulating discussions in the field of vocational and industrial arts education, there will also be color and even glamour in the Los Angeles convention. This is a convention you cannot afford to miss.

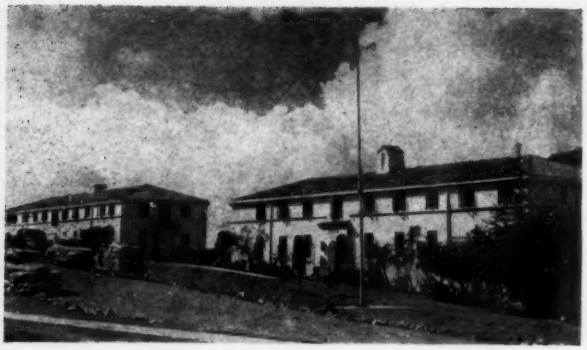
The Los Angeles AVA convention begins with a general session on Monday evening, December 15. The convention closes on Thursday afternoon, Dec. 18, at 5 p.m. Thursday afternoon's program will include a meeting of the House of Delegates and an especially arranged program presented by *The Ship*.

General Sessions. There will be two general sessions, the opening session on Monday evening, December 15 is the first. The National Council of Local Administrators of Vocational Education and Practical Arts has been invited to develop and present the program for the general session Monday evening. From all advance accounts there will be an unusually large number of city directors present for this meeting. Arrangements have been completed and a strong program is assured.

The general session on Tuesday evening will be addressed by one of our leading AVA past presidents, by one of America's outstanding superintendents of schools, and by a brilliant woman speaker from one of the lay organizations interested in vocational education. The program will not be overly long but will be a vigorous program because of the important pronouncements by our speakers.

Section Programs. Several special program committees have been at work for several months preparing the programs for the various section groups. These programs will be based upon current needs and developments. The availability of educational funds under the George-Barden Act will bring added responsibility and opportunity to the various groups in our Association. New opportunities bring problems. The programs will deal with these developments, opportunities, and problems.

Agricultural Education. The vocational agriculture program is now rounding into shape. Special features include the following: A trip to the California Polytechnic School at San Luis Obispo the day preceding and the day following the convention. Inasmuch as San Luis Obispo is 200 miles from Los Angeles, it is suggested to convention attenders that they route themselves through San Luis Obispo either coming to or going from the convention, and stop over to see this unique agricultural school. Good train connections make possible a four hour visit to California Polytechnic either way. Those desiring such a visit may contact Byron J. McMahon, chief, agricultural education service, California Polytechnic School.



Dormitories such as these two accommodate about half of the 2,000 men students attending California Polytechnic College at San Luis Obispo. Others are accommodated at nearby Camp San Luis Obispo and at a special housing unit in the down town area. Nearly 90 per cent of the students are from out-of-town.

Another trip of interest will be conducted on Wednesday afternoon, December 17, when the Agricultural Teachers Association of California will be host to the Agriculture Section. This trip will include items of agricultural interest in the vicinity of Los Angeles, and topped off with a barbecue luncheon served in genuine California style.

A session of the program will be devoted to veteran institutional farm training problems with a group of state supervisors taking part and explaining how the program operates in their states.

There will be a session devoted to teacher training problems in agricultural education and another session given over entirely to vocational agriculture teachers and their problems. Agriculture teachers everywhere are expressly invited to attend the convention and will this year be featured with a program entirely thir own.

A feature of interest will be the session devoted to the Young Farmer program with officers of the California Young Farmers Assn., and Young Farmers from near-by states telling their story.

Another feature will be a session devoted to the teaching of cooperation, in which outstanding national authorities in cooperative effort will be in attendance. A demonstration on a cooperative instructional program between industry and California Future Farmer chapters will also be given.

Vocational Guidance. The guidance section will open with a visit to some high school on Monday afternoon. State supervisors will meet on Tuesday with the guidance service staff of the U. S. Office of Education in a closed session at 10 a.m. In the afternoon there will be two addresses. Dana M. Cotton, director of placement of Harvard University will speak on "The Role of the Vocational Counselor in Education for the Years Ahead," and Glen E. Smith, state supervisor, Jefferson City, Mo., will talk on "Status of State Guidance Programs under the Provisions of the George-Barden Act." On December 17, at 2 p.m., the topic will be "Personnel Services of Business and Industry." Dr. H. B. McDaniel of Stanford University has asked Dr. Emery Stoops to arrange this meeting.

The final day there will be a visit to the Counseling Center at City College in the morning, and in the afternoon there will be addresses by Dr. McDaniel and Dr. Brighouse, Occidental College. Miss Margaret E. Bennett, director of guidance for Pasadena is arranging this program.

Home Economics. With the increased interest in the guidance program and home economics funds being used in many states for the guidance program, "The Role of Guidance in Home Economics," will be discussed by Dr. H. B. McDaniels, Stanford University, formerly chief of the Bureau of Occupational Information and Guidance in the State Department of Education, Sacramento. This will be followed by a panel discussion.

For the past two years the American Vocational Association Research Project has been in progress. The home economists in the nation are interested to know the findings, and Dr. Druzilla Kent and members of her committee will present the findings of the American Vocational Association Research Project at one of the sessions. One of the other topics which the home economists felt should be discussed was, "What are the Implications of the Prosser Resolution for Home Economics?" This topic will be discussed by an administrator, a state supervisor, and a teacher trainer.

During the past year many home economists have been called upon to give of their knowledge in helping to re-build the peace of the world. Miss Edna P. Amidon, chief of home economics education, U. S. Office of Education, will present to the group the highlights of her experiences in Germany and Sweden.

Arrangements are being made for those who are interested to visit homemaking departments and the adult homemaking classes in different sections of Los Angeles.

A tea is being arranged to honor Miss Florence Fallgatter, president of the AVA. It will be held in the Household Residence which is the training center for maid service in West Hollywood.

Visits to Schools and Places of Historic and Scenic Interest. Ample provision will be made previous to the convention, during and immediately following the convention for visits to many different types of vocational and industrial arts schools and classes. Many groups will wish to visit the vocational programs of some of California's junior colleges. Wednesday of the convention, December 17, is being set aside by most section groups for special visits to schools.

Many International Visitors. Each year the AVA convention is attended by an increasing number of representatives of other countries. This year the Los Angeles convention will have the largest group of international visitors we have yet experienced. There are many vocational educators in the U. S. at the present time from several countries. A substantial group of these and many international visitors are planning to attend the Los Angeles convention. A special program on vocational education and its relation to international economic recovery has been arranged for this group of international visitors.

An interesting program will be a section meeting giving information on the educational program carried on by the U. S. State Department in cooperation with Central and South American countries. Representatives from various Central and South American countries and a representative from the Institute of

Inter-American Affairs, Washington, D.C., will give the objectives, accomplishments, and further purposes of this program in furthering Inter-American relationships. This section program will be under the chairmanship of J. Graham Sullivan who has developed the fine program in connection with the Peruvian government.

There are at present more than 100 students and teachers from the South American countries taking specialized work in trade schools and colleges in the U. S. There will also be a group of directors of industrial education trade schools from Brazil in the U. S. this fall, many of whom may be at the convention.

An Unusual Banquet. The AVA banquet this year will be under different conditions than in other years. In the first place, there will be no speeches. The formal part of the program will be extremely brief, consisting of introductions of some of our prominent guests and the presentation of AVA Life Memberships. The Earle Carroll floor show will be a feature of the banquet. It will not be necessary to clear the floor for the dancing of the evening as the dance floor will be available without any re-arrangement. Dancing will be a feature of the evening with the music provided by the Earle Carroll organization.

Because of the demand for banquet tickets this year we have made it possible for banquet tickets to be secured in advance of the opening of the convention. On the last page of this issue (page 42) you will find a coupon which can be used in making advance requests for banquet tickets.

Proposed AVA Constitutional Changes. The executive committee appointed a special committee to study the present AVA structure for the purpose of making recommendations for some change which will permit a larger participation in AVA affairs by more of our AVA members. These changes contemplate a distinct recognition of all organized groups within the AVA. Opportunity will be given to these groups to choose some of their own representatives. Another purpose of the proposed changes is to make possible a slightly smaller Executive Committee in order that we can afford to have more Executive Committee meetings during the year to deal with AVA problems and activities. The November *AVJOURNAL* will carry the report of the committee on AVA structure and will indicate some of the substantial changes that will be presented by the committee to the House of Delegates.

Hotel Reservations. If you have not made your hotel reservations, we suggest that you send in your application at once to the Convention Bureau of the Los Angeles Chamber of Commerce. Application blanks for the purpose can be secured from your Washington AVA office.

In recent conversation with the Housing Chairman at the Chamber of Commerce who is making the room assignments for the convention, the following points were suggested as ones which should be made clear. (1) Delegates should plan, if possible, to arrive on Sunday evening rather than on Monday evening in order to avoid delays in registration and obtaining accommodations. (2) Delegates should also plan to double up in rooms since the number of available rooms is limited. (3) Delegates should not send any money as a deposit until so notified by the Housing Bureau of the Chamber of Commerce.

Special Pullman Car Arrangements. A number of our AVA members have requested that arrangements be made for a group to travel together to the convention. We are therefore making special arrangements for Pullman reservations out of Chicago on Saturday evening, December 6, on the Union Pacific "City of Denver." This train arrives in Denver early Sunday morning, December 7. Sunday, December 7, will be spent in Denver where special arrangements will be made to visit the Denver Opportunity School in the forenoon and in the afternoon trips will be arranged to points of scenic interest. The group will remain in Denver at a hotel overnight, in order to take an early morning train Monday, December 8, on the Denver & Rio Grande Railway south by Pike's Peak and through the Royal Gorge to Salt Lake City. The train arrives at Salt Lake City early Tuesday, December 9. Tuesday will be spent at Salt Lake City visiting the state capitol, the Mormon tabernacle, and some educational institutions. The group will leave Salt Lake City that evening by sleeper on the Western Pacific Railway for San Francisco. On Wednesday, December 10, the train passes through the beautiful and unusual Feather River Canyon, a very scenic section of the trip. The party arrives in San Francisco Wednesday evening, December 10.

The party will break up at San Francisco in order to give considerable choice in the use of the next two days. Some members will wish to visit schools in San Francisco, make trips around the bay, to the campuses of the University of California at Berkeley, and other points, and to the State Teachers College at San Jose. Some will wish to take two days for a trip to Yosemite Valley and the big redwood trees.

The trip from San Francisco to Los Angeles will be made by most members of the group on the morning daylight train of the Southern Pacific Railway, following the beautiful coastline.

Notify Your Washington AVA Office. If you are interested in becoming a member of this traveling group of AVA members, which will spend a day at Denver, pass through the Royal Gorge, spend a day in Salt Lake City, and take the trip down the Feather River Canyon, you should send word at once to your Washington AVA office in order that Pullman reservations may be secured. Railroad tickets to the Los Angeles convention, using this route, can be arranged for a return on any route selected.

Radio Service and Maintenance at Pasadena Junior College

Use Proper Systems of Storing Checking, and Inventorying Tools Equipment, and Supplies in

A FARM MECHANICS SHOP

R. W. CANADA
Teacher Education
Colorado A and M College, Fort Collins, Colorado

TEACHERS of vocational agriculture are busy men. With a full schedule of classroom teaching, farm mechanics instruction, individual conferences with students, and project visitation after school hours and on Saturday, little time remains during the school year for much needed planning and organization work. Therefore, efficiency and good organization in all phases is important if the program in vocational agricultural education is to move forward. This discussion will deal only with the farm mechanics aspects of storing, checking, and inventorying tools, equipment, and supplies in the vocational agriculture farm mechanics shop. The old adage, "A place for everything and everything in its place," applies here.

It is not expected that all will agree wholeheartedly with the recommendations that follow. However, the writer has used the following practices successfully and has observed other teachers carry on many of them with a good measure of success. One fact becomes evident: Much of the organization work within the farm mechanics shop must be done during the summer months if instruction is to progress smoothly during the school year. The following activities well may be done during this period: (1) Plan the shop for greatest efficiency in use of tools, equipment, and supplies. (2) Provide suitable tool storage facilities. (3) Mount tools for easy storage and checking. (4) Plan a workable tool checking system best suited to the type of shop and work in progress. (5) Devise a system for group participation in doing orderly shopkeeping.

The investment in tools and equipment in a well-equipped farm mechanics shop runs into a considerable figure. Therefore, every teacher of vocational agriculture should exert every effort to properly store and protect this investment. There are two main systems in common use today, the centralized and decentralized systems of tool storage. A combination of the two plans occasionally is found operating with some degree of success.

Under the centralized system a toolroom of sufficient size is used to store all tools. A student monitor is in charge of the tools and is responsible for checking them in and out to other students. He remains as tool-checker for varying periods of time.

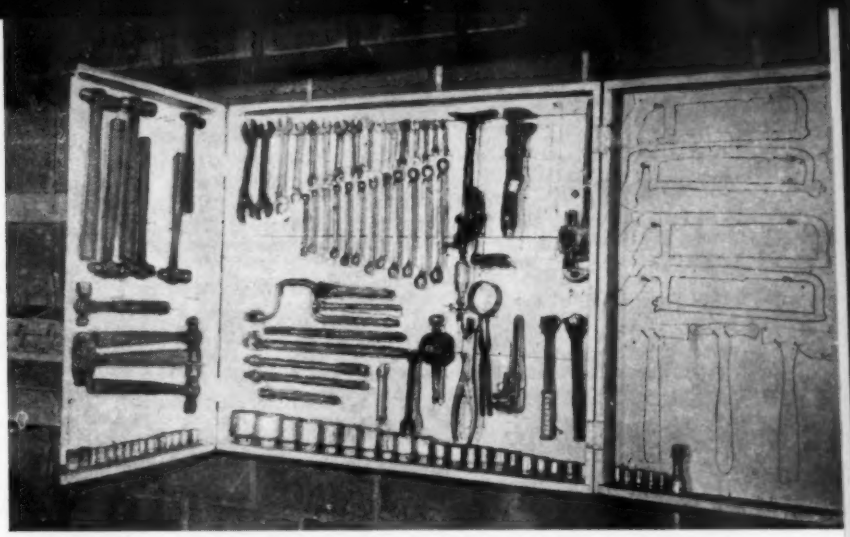
Under the decentralized plan, tools of a specific enterprise are stored in cabinets near the area where a particular type of work is performed. Woodworking tools are located on panels or in cabinets mounted against the wall above the benches where such work is carried on. The same procedure is true for metalworking tools, motor mechanics, soldering, and other specific types of tools.

Both plans can be used with reasonably good success if the proper organization is effected. A toolroom with a monitor in charge, however, is now out of place in most farm mechanics shops. The Food Production War Training Program and the present Veterans On-the-Job Training Program place a premium upon shop floor space. Centralized toolrooms use much-needed floor area. A number of wall cabinets, each devoted to some particular kind of tools, are better adapted to the average farm mechanics shop program.

The manner of organizing and mounting the tools is important. If an outline silhouette of the tool is painted in black on a pearl gray background (See figure 1), it becomes a simple matter to check the tools at the close of each shop period. Care should be taken to apply the outline silhouette with a good striping brush. This outline will be much neater in appearance than the solid silhouette painted immediately back of the tool. Often a carefully designed tool hanger can be used, whereon no other tool can be hung. Then no outline silhouette will be necessary.

The same type of tools, such as chisels, should be mounted in a given area of a woodworking cabinet,

Carpentry tools could be arranged as shown in this picture for storage, if the decentralized system is employed in the Farm Mechanics shop



Wall cabinet showing the use of the outline silhouette of tools. Panels or cabinets should be above benches

or all metal twist drills in the same section of the hot and cold metal cabinet.

While it is more difficult to place responsibility for broken, damaged, or lost tools on the responsible individual under the decentralized system, proponents of this plan claim a number of advantages for the system. The most important are: (1) less time is required for checking tools in and out; (2) there is less last minute rush and confusion such as occurs at the check door of the centralized system and less discipline at this point; (3) the full time of a student as a tool-checker is not required for he performs only at the beginning and close of each shop period; (4) farm mechanics students need a variety of tools on most jobs; hence it is more efficient to have open wall cabinets on a "serve yourself" basis; (5) much-needed floor space is conserved; (6) students are able to identify and fix names of tools in mind more rapidly through the "serve yourself" plan.

In order to make the decentralized tool system work effectively, experience indicates that the following procedures will need to be observed closely:

Checking Tools—First, a toolkeeper is assigned to each cabinet for a period of one month, usually. His job is (1) to unlock the cabinet at the beginning of the period; (2) to check tools and see that they are replaced at the close of the period; (3) to lock the cabinet and return the keys to the proper person, and report any tool discrepancies to the instructor.

Secondly, students are encouraged to return tools as soon as they have finished with them in order to make the tool available to others and to avoid the last minute rush.

Third, to facilitate checking tools in the cabinets, each boy is assigned about five metal tags to be placed in each cabinet. His number is stamped on each set. When he checks out a tool he hangs his tag on a small brad or hook near the tool. This remains until the tool has been returned and checked by the tool-checker at the close of the period. Thus responsibility can be placed upon the boy using that particularly tool during the period. After inspection the tool-checker returns all tags to the proper peg on the tag board located in the cabinet.

Inventorying Tools—The importance of establishing a workable system for the protection of tools and equipment within the farm mechanics shop cannot be overemphasized. A workable system, when once established, will be valuable in planning group instruction, requisitioning additional tools and equipment, and in discharging responsibility to school administrators in the matter of yearly departmental inventories.

Some of the major considerations in proper inventorying of tools and equipment are: (1) provide a running inventory that is cumulative and expansive, year to year; (2) establish a uniform means of marking tools for department identification purposes; (3) maintain a system of keeping the inventory list current.

Either a cardex file or running lists typed on 8½"x11" sheets and protected by a suitable notebook cover can be used advantageously. In some respects the typed tool lists are more convenient and if used separate sheets are organized under the following sections of this notebook: Carpentry and woodworking; hot and cold metal; sheet metal and soldering; concrete and masonry; plumbing and pipe fitting; harness repair; farm engines and tractors; electricity and wiring; farm machinery; glazing; painting; welding, arc and acetylene; farm fencing; general equipment in farm shop.

The heading of these sheets would appear thus:

CARPENTRY AND WOODWORKING

No.	*Name of Tool*	*Size or Description*	*Identification Mark*	*Quality*	*Beginning Value*	*Condition*

Tools of a given type such as carpentry, forging, soldering, etc., should be listed on separate sheets, as previously stated. By so doing, new tool purchases can be transferred directly from invoice forms to the respective section of the inventory notebook. In this manner the lists can be kept current. By making a carbon duplicate, a copy is available at the close of the school year for the administrative officers.

Because of the wide variety of work performed in farm mechanics shops, maintenance of the shop, tools, equipment, and supplies becomes a major problem. Good standards of housekeeping, keeping tools and equipment in good condition, and general order within the shop are important from the standpoint of good teaching atmosphere and professional pride. To maintain high standards, group cooperation and participation must be enlisted. No teacher can have a favorable shop environment by attempting to do too many of the chores himself. If each class member does his small part and does it well, efficiency can be achieved.

The following plan is definite and workable in that each student knows his particular assignment each month. It is designed for the decentralized system.

Foreman—to see that the shop is in good order when students leave, oversee the jobs performed by other students, and report any discrepancies to the teacher. He will be responsible for unlocking tool cabinets or delegating this responsibility to others.

Toolcheckers—to see that all tools are properly returned and put away, to keep tools in each cabinet clean and in good condition, and to sharpen them when the need arises. There shall be a tool-checker for each tool cabinet. Each checker shall lock his cabinet at the close of the period.

Floor Sweepers—to sweep the entire floor area in a workmanlike manner.

Bench Brushers (Carpentry)—to sweep off carpentry tables, close vises and drawers, and remove any paint spots or dirt.

Bench Brushers (Sheet Metal)—to sweep and wipe metal benches free of all accumulation and close vises. They shall also pick up usable metal and discard scrap in the proper place.

Paint Keeper—to be sure all paint is put away, all lids placed on cans tightly, and that brushes are cleaned and properly stored.

Supply Man—to put away all school lumber and keep racks in order. He will also have charge of small hardware, and shall keep a supply of various items on hand.

Power Equipment Man (Wood)—to see that the power saw in cleaned, oiled, and left in readiness.

Power Equipment Man (Metal)—to turn off all power equipment making sure it is in good working order, oiling, cleaning, and checking for weaknesses.

Floorman—to pick up odd parts and centralize them so as to leave the floor cleared and in neat order; put away oil pans, cleaning rags, pails, blocks, chains, shawhorses, and jacks. This should be done immediately at the close of the shop period to help sweepers clean the floor.

Forgeman—to clean out under the forge ahead of the sweepers, put forge tools away, brush anvils and floor of hearth, bank the fire, and provide a supply of shavings.

Arc and Acetylene Welding Man—to (1) shut off all valves, bleed lines, put away the hose and torches making sure that tips are in place and that tables are cleaned and in order. The dark lens in all welding equipment must be checked thoroughly for cracked or broken lens, and (2) to see that the arc welder is shut off and cables cared for.

Fileman—to be familiar with the files and put all blueprints, drawings, and books, etc., in their proper places.

Other boys may be assigned to such jobs as checking lockers and lavatory, doors and windows, storage of materials, etc.

A plan for rotating boys each month from job to job can be made as a wall chart and posted in the shop, such as is illustrated here.

FARM SHOP MAINTENANCE ASSIGNMENTS

	Foreman	Tool-Checker	Floor Sweeper	Bench Brusher Carpentry	Bench Brusher Sheet Metal	Paint Keeper	Supply Man	Power Equipment	etc.
Ag I	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
John Doe									
Richard Roe									

It generally is conceded that a graduated program of farm mechanics instruction should be taught each year if students are to have the essential information and skills required in the present day field of farm mechanics. This means that approximately one-half of each year should be devoted to the development of fundamental skills in the various farm enterprises. It is necessary to estimate with reasonable accuracy, the amount of supplies needed to carry out the instructional program in each class for that year for the fundamental skills involved. Instructors in farm mechanics can compile such a list during the summer months and submit the list of supplies to firms for bids. In this way, more supplies can be bought with the budget provided and the materials will be on hand when needed as the year's work progresses. This efficient procedure will eliminate the objectionable practice of sending boys downtown to purchase supplies during school hours. The purchasing of most of the required supplies at one time also will be appreciated by school officials since this will eliminate a continuous flow of small bills coming before the board at each meeting.

The amount of shop supplies to be carried by a department of vocational agriculture will be influenced by local conditions. A greater amount will need to be bought and stored in rural consolidated high schools and in the smaller town schools where supplies cannot be purchased locally. The following is a partial list of supplies.

Qty.	*Item*	*Cost per unit*	*Total Cost*
2	8 lb. balls binder twine		
20	lbs. ⅜" manila rope		
1	gallon raw linseed oil		
1	gallon can Neatsfoot oil		
5	lbs. E. Z. welding compound		
1	lb. box soldering flux (paste)		
2	large spools acid core solder		
12	sheets emery cloth		
200	lbs. blacksmith coal		
2	lengths octagon tool steel ⅜"		
2	lengths octagon tool steel ½"		
1	length each tool steel 5/16", 7/16", ⅝", ¾"		
2	doz. hack saw blades 10", 24 point and 10", 14 point		
1	doz. 6" regular taper triangular files (for filing saws)		
2	large rolls friction tape		
50	feet insulated wire		
50	lbs. each of ⅛", 3/16", 5/16", ¼" electrodes		
25	lbs. each of ⅛", 3/16", 5/16", ¼" acetylene rod cast, steel and bronze		
1	can brazing flux, cast flux		

A form such as this can be located conveniently in the supply-room or cabinet and supplies can be listed as the quantity runs low. This serves as a reminder to replenish the supply and will greatly increase the efficiency with which work can be kept flowing in the shop.

After the supplies have been purchased the next step is preparation and storage for convenience when school is again underway. Here the efficient, farsighted instructor can do much by advance work and planning to make his job easier. Some pertinent suggestions are:

1. Tool steel can be cut into proper lengths for the required skill jobs, such as making chisel and punches. These pieces can then be placed in pidgeon holes in the supplies cabinet or supply-room for easy distribution at the proper time.
2. Rope can be cut into required lengths, ready for splicing and for making rope halters.
3. Nails, bolts, nuts, washers, screws, cotter keys, and other hardware supplies can be stored in glass jars of the required size and placed on shelves of convenient height, grouped homogeneously. This provides immediate recognition and labeling containers is unnecessary in most instances.
4. Where welding rod is packaged in cardboard containers, the labeled end can be cut free on the bottom and two sides, leaving the top side attached. The carton then is placed on the shelf with this open end out. Thus rod size and type can be identified quickly and it is readily accessible.

(Continued on page 30)

60 Years of Industrial Arts

GORDON O. WILBUR
Head, Industrial Arts Department
Oswego State Teachers College

OSWEGO STATE TEACHERS COLLEGE EXPANDS TO MEET NEW YORK NEEDS

OSWEGO State Teachers College is one of two state colleges certified to prepare industrial arts teachers for the public schools of New York state. The program dates from 1888 when Oswego became the first state school to receive legislative approval for training industrial arts teachers.

At present, the industrial arts department is located in a three-story modern brick building which was completed in 1932. Shops are provided for bench woodworking, machine woodworking, general metal, transportation (including aeronautics), graphic arts, electricity, ceramics, and general shop. Facilities are also available for mechanical drawing, art, science, and photography. Student classrooms are provided for academic and professional classes.

The subjects in the four-year curriculum are divided among the liberal-cultural, professional, and technical fields. Outstanding features of the program are one full semester (18 weeks) of cadet teaching in off-campus centers and seven semesters of shop work is as many different limited general shops. Close correlation between the shops and the science and drawing courses is another notable feature.

Graduates from this program at both Oswego and Buffalo are certified to teach industrial arts in the elementary and secondary schools of New York. Certification is limited, however, to industrial arts and mechanical drawing.

Enrollment at Oswego now stands at approximately 525 full-time industrial arts students. About 300 are veterans. Last year's class of 75 relieved the extreme teacher shortage in New York.

Many new instructors have been added to the teaching staff to care for the rapid increase in enrollment which has taken place during the past year. Before the war the staff consisted of about ten full-time instructors. Most of the liberal cultural subjects were taught by a faculty who divided their time between industrial arts and general elementary. There are now 20 full-time instructors in the division. New appointments include: Robert Helsby, general metal; Howard Hall, transportation; Marshall Schmitt, metal and electricity; Taylor Harter, wood; James Hastings, general shop; Arthur Roll, general shop and mechanical drawing; Harold Gilbert, metal; Charles Marsh, science; Berry Morton, education; and William Huss, education and supervision.

Even before the end of the war, and before present facilities were taxed to the limit by increased enrollments, plans were made for expansion for the preparation of industrial arts teachers.

The present building contains approximately 34,000 square feet of floor area exclusive of corridors, etc. Plans are now being drawn and funds have been appropriated to add another 20,000 square feet to the present building. This addition will take the form of a wing on each end approximately 56' x 70'. It will make more adequate provision for all of the present facilities, and will also include a new ceramic shop, a textiles shop, an elementary industrial arts shop, and a new chemistry laboratory as well as better accommodations for art and mechanical drawing.

Trends in enrollment and staff are difficult to determine. It is felt now that when the present problem of overcoming the shortage of teachers is solved, an enrolment of approximately 450 full-time industrial arts students with a comparable staff will be maintained. It is also planned to develop a program for the preparation of industrial arts teachers for the elementary schools.

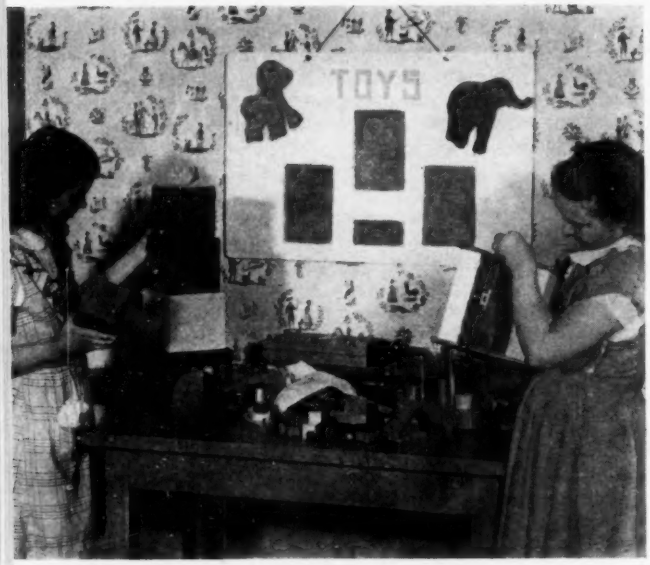
By continuous and careful analysis of the trends in general education and their implementation through industrial arts, Oswego State Teachers College hopes to maintain and extend the service which it has given to the industrial arts teaching profession for 60 years.

Industrial Arts Teacher Education as carried out at Oswego State Teachers College, New York

Guidance in Michiga

MRS. ALBA M. ANDERSON
State Supervisor, Homemaking Education, Michigan

Boys enrolled in Homemaking III learn food service



7th and 8th grade students prepare to care for children

Working as receptionist and secretary in a law office

GUIDANCE is one of the "musts" in developing home economics programs in Michigan. The major goal is the growth of all individuals and groups through effective participation in all phases of home and family life at home, in the school, or in community life.

Guidance occurs in the secondary schools in Michigan as an integral part of all good teaching of home economics,—a specialized function which begins where good classroom teaching in home economics leaves off. Most home economics teachers carry out the first phase in some degree today without the assistance of the second. All teachers are not trained in specialized guidance techniques, nor are all school programs and teacher loads designed to include these important functions since they require considerable time, especially when specialized guidance personnel is not employed. The wise teacher recognizes her abilities and limitations in the way of educational preparation for carrying out guidance procedures and does not go beyond what can be done well.

Teachers frequently are asked, "What is the need for guidance as a part of the home economics program today?" The fundamental purpose of guidance is understanding growth needs of individuals of all ages in order that the most promising opportunities for growth be made available. Some general areas of guidance in which Michigan home economics teachers participate are reported from various school communities in the following paragraphs:

Making and keeping adequate personnel records including background, needs, attendance, tests, names, addresses, ages, and other data regarding individual students is cooperatively developed and used by students and teachers at Wayne and Goodrich as a part of base line data in the ninth grade.

Counseling and guiding students regarding personal, vocational, social, and educational needs is a vital part of homemaking in each grade at Highland Park, Stanton, and in many other schools. Teachers counsel with students on social behavior and home experiences, on looking to the future in planing programs best suited to their needs and abilities, and on other vital concerns.

Planning and evaluating programs, units of work, home or community experiences to undertake, making schedules of activities, and often classifying students for various courses or activities has long been part of homemaking education in Michigan for adults as well as youth. As adults register in Jackson, the nurse takes time to help plan a program for each individual based on individual needs. At the Girls Vocational School in Detroit, students are evaluating a unit of work on child care and feeding. In Wayne, students develop leadership through acting as chairman of groups, giving reports, of directing groups on field trips related

chigan's Home Economics Program

Growth of the Individual Becomes a Major Objective

to a unit of work on careers or occupations in homemaking education.

Placement and follow-up in educationally-directed work experiences of various types, as well as assisting youth to plan further training to pursue, is going on with youngsters as well as older students. Boys are participating in a planned and directed work experience in food service at Rockford. In Detroit, the seventh grade students take advantage of wage earning opportunities by caring for neighborhood children. They take keen interest in preparing for this job by studying toys, games, stories, etc., that children enjoy. Good grooming is important for girls who hope to succeed in selling; girls interview prospective employers about job requirements, the future of the work, and other questions relating to employment.

Coordinating and integrating the home economics program with the program of the school and with the specialized guidance personnel or problems concerning home economics students is well shown in the description of a unit on job try-outs that follows from Clare:

Homemaking III is offered as an elective subject to the 11th and 12th grade boys and girls. It has been found in the Clare High School that subject matter taught in homemaking is correlated very well with knowledge needed in selecting and succeeding in a job.

The first step is to locate central interests of students concerning a life-time job. I.Q. and aptitude tests are given at the beginning of the course, then individual conferences are carried out with the students concerning these tests by comparing interests, likes, and dislikes with the rating of the tests. Professional people and laymen are chosen according to group interest to visit the classroom and discuss with individual students the pro's and con's of their professions.

In this approach to "What Shall My Vocation Be?" the student accomplishes two things: The tests show his ability and the fields in which his highest potentialities lie; and the student discovers whether his interests and his tests correspond.

General knowledge useful to all business people then is approached. Etiquette on the job, correct dress for all occasions, introductions, acceptances, and hints on interviewing are a few illustrations of general subject matter studies through skits, group discussions, etc.

The student next selects the place for a job try-out that corresponds with his interests and choice of vocation. An interview with the employer follows. Business people feel that such experiences are very worth while and cooperate in every way. This completes one of the two-month sections of the course.

The class usually is divided into two groups, one going downtown for six or seven weeks to get actual business training through part-time work experience. Progress sheets are filled out by both employer and employee weekly. Each student works one hour daily without pay. The homemaking instructor makes regular follow-up calls while the student is at work to discuss problems that might arise or to give aid where needed.

While group one is working, group two is learning cafeteria management. In Clare High School the homemaking department has complete charge of the cafeteria. Budgeting, marketing, menu planning, quantity cooking, and bookkeeping are taught. At the end of the period the groups change about, and the same plan is repeated. At the time the change is made a panel discussion is held between employers and students: free discussion of vocational guidance is carried on. Another panel is conducted at the completion of five months of work.

The last two-month period is devoted to home management, marriage, or art in the home. This year an exchange class with the high school agricultural department has been planned also.

Many former students had positions offered or waiting for them when they finished school. This experience proved beneficial not only to students who do not continue to higher education, but to those who seek a college education as well. They, too, have a better idea of the goal they wish to accomplish in life, reports Miss Barbara Longstreet, homemaking instructor in Clare.

Teachers do not always recognize their contribution in these different areas and may overlook the opportunity to help a student in making an adjustment in personal, home, or social life. Not all home economics teachers understand the real purpose of teaching as growth and development of boys and girls, and hence emphasis is placed on the material phases of homemaking which results in little change in behavior or attitudes. Home economics teachers have much contact with students; this contact should be directed toward positive attention of the individual boy and girl if personnel work fills a place in education for home and family life effectively. The goal of teachers in the United States should be to help boys and girls to become well-adjusted, self-evaluating, self-directing individuals and to help them to achieve insight into their natures and their needs as growing, socialized human beings.

Evaluating the part that guidance plays in the educational development of home economics students has been determined in many situations in this state by use of such criteria is suggested here.

Are the needs, interests, and abilities of each pupil determined?

Are pupil's programs planned in terms of interests, needs, and abilities?

Are pupils aware of their special abilities and are they steadily achieving progress toward a goal or goals?

Do pupils think in terms of proficiencies and not in terms of "grades?"

(Continued on page 39)

Greeting Cards Depend Upon GRAPHIC ARTS

ROBERT J. BENDER
President, Gartner & Bender, Inc.
Chicago, Illinois

ALL forms of the graphic arts are employed to reproduce greeting cards. There is no limitation on originality in design, no restriction on colors, papers, reproduction processes, three-dimensional effects or ornamentation; no lack of opportunity for the full play of artisitc ingenuity and initiative.

The greater the artist's working knowledge of the graphic arts, the greater are the enjoyments and rewards that may be realized. The achievement of unusual, aesthetically pleasing, and striking effects depends in large measure upon combinations of various textures of papers, colors, type styles, methods of reproduction, embossing, die-cutting, and ornamentation. A greeting card artist is severely handicapped who is not acquainted with these factors and their potentialities.

The graduate of a good art school has training in draftsmanship, composition, and color. He has acquired a knowledge of style that combines charm, delicacy, and feeling. Some schools have imparted the relationship of type to design, together with the fundamentals of letterpress printing, multi-color halftone printing, and offset lithography.

There are good jobs in the greeting card industry for well-trained artists. There are jobs for those who specialize in the human figure, in animals, flowers, birds, landscapes, lettering, and decorations. There are places of much greater scope, interest, and income for those whose talents run to creative artistry and vision who are familiar with the problems and processes of greeting card production.

The artistic level of the industry reflects American public living. Careful evaluation is made year after year of the requests and preferences of greeting card buyers. Buying trends are watched and measured. New lines are planned a year ahead to satisfy definite wants and needs.

The artistic level of greeting cards is rising together with advancing standards of advertising art and magazine illustrations. Manufacturers are alert to the need for attracting artists of originality and creative ability to sustain and develop this trend, and for making use of every advance in printing techniques to present their artistry to the public in most attractive form.

More than 85 per cent of the annual output of approximately four billion greeting cards in the United States is produced by the use of one or more lithographed colors. Simply explained, this process moves through the following stages: The original art work in full color is placed before color cameras. Color filters are used to obtain a negative for each basic color. Lithographic printing plates are made from these negatives, one for each basic color. Skilled craftsmen strengthen or reduce the color values as these fine screen plates are etched. Printing plates transfer their respective colors to a rubber blanket which in turn impresses or offsets the colors on the paper. Colors are accurately registered in a predetermined sequence, which gives the most realistic appearance possible. Specially prepared inks and kiln-dried, conditioned papers assure completely faithful reproductions of the original art.

Careful editorial thought is given to greeting card verse

Subtle nuances of light and shade, delightful tints and soft lines, are captured and preserved by lithography. Original art work usually is rendered on a somewhat larger scale than the finished result (the maximum scaling should be no greater than 11 x 14") and the reduction invariably enhances and sharpens the artist's intent and execution.

Fine examples of high speed letterpress and gravure printing constantly are offered in vast quantities of advertising literature, magazines, and books. Were no other printing technique available to the greeting card industry it would undoubtedly find it necessary to seek a change of face, or a change of pace, in order to set greeting cards apart from other categories of printed matter. This search would have taken the industry down many of the avenues already explored—

Thorough Knowledge of Production Processes and Papers Is Required for Jobs in This Growing Industry

to use of papers with fancy surfaces or textures, odd shapes, special inks, embossed and cut-out designs, and novel trimming. Letter-press and gravure account for from 50 to 60 million greeting cards per year.

To add diversification, and the dignity enjoyed by the finest social stationery, steel die engraving frequently is employed to create effects, sometimes in combination with lithography. The steel die process calls for engraved plates with a debossed or sunken design which is filled with ink and then under great pressure, transferred to paper.

Embossing plays an important part in promoting realism. It permits one to feel as well as see the cool, delicate petals of a rose; the sleek, soft fur of a bear cub; the leaves of trees or shrubbery. In this process, commonly referred to as "bumping up," the printed sheets are hand-fed into a small press between male and female dies. When the press is closed, the dies mold or sculpture desired parts of the design into cameo-like, three-dimensional reality.

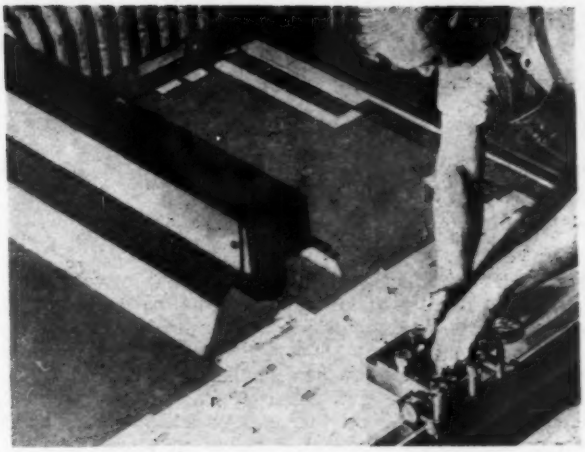
For variety, many greeting cards are die-cut to accentuate the illustration, particularly on the cover design. The operation is similar to that of embossing, except that steel rule cutting dies are used to punch out or trim away portions of the paper. Keen knife blades, formed in the shape to be cut out or off, are embedded in flat blocks and mounted in small hand-feed or automatic presses.

This artist is using the airbrush on a full color drawing

Die-cutting offers an interesting avenue of exploration to the artist. Unusual trimimng of a cover in a scalloped or lace design may be set off by deep color on the exposed part of the card's other half. Cut-outs plus trimming away can lend unusual charm to a latticed gate or window scene. In a multiple-fold card, one may look through a series of archways, possibly at ringing bells, couples skating, or a camel caravan moving across a desert lighted by the Star of Bethlehem.

Children love ready-cut dolls, dresses, furniture, and animals. One novelty line of children's cards offers these ready to paste into miniature toys.

Among reproduction techniques often used to supplement lithography are airbrushing, stenciling, use of silk screens, tinting with water colors, and addding



Picture shows layout and preparation for press plates

gloss and glitter. No process or method is overlooked in the painstaking effort to capture all the charm and quality of an original design, and to present the artist's conception to best advantage.

Greetings cards are basically composed of many types, some showing floral designs, scenic motifs, landscapes, conventional indoor and outdoor settings. Others include the humorous, comic, and cute subjects usually employing cut-outs, tip-ons, and enclosures to achieve novel, startling, and bizarre effects. There is a demand by the public for a certain amount of spangle, glitter on snow, and silvered, bronzed, or gilded borders, bells, etc.

Paper manufacturers offer many kinds of paper for a great many purposes. Book papers, like newsprint, do not have smooth finishes, hence are suitable only for line plate illustrations and coarse Ben Day screens. Calendared papers and coated stock take fine screen half-tones but may crack when folded. In addition, there are tissues, onion skins, parchments, colored stocks, papers with metallized surfaces, with ripple and pebble finishes, with high gloss, with dull coatings, and papers to take broonzing, varnishing, and adhesives. Papers come in many weights and thicknesses and some have deckle edges.

Every greeting card presents several choices of paper to present an idea to best advantage—combinations of contrasting or harmonizing textures, weights, and colors. It is highly desirable that the artist be familiar with the types of paper most frequently used in producing greetings cards. Paper companies supply dealers, printers, and other buyers with sample books of paper stock which can be obtained as reference files.

Ingenious folding opens another field of novel effects, particularly when combined with cut-outs and trimming. Even the simplest fold offers a few variations. The French fold frequently is used because it gives an impressive appearance and requires printing on one side only. Accordian files lend themselves to humorous ideas.

Bows are a feature of more expensive cards for silk cord and bow tying are hand operations. There are fads and fashions in greeting cards. More than 100,000 designs (drawings, etchings, water colors, oil paintings) go into production each year. Since Christmas cards today represent only 48 per cent of the total output, there is a tremendous field in cards for every occasion. Greeting card ideas are welcomed by the industry from newcomers and top-notch artists alike.

SHOP DESIGN

Let the Architect Take Part in Preliminary Planning for Best Utilization of all Factors

CLARKE E. HARRISS, A.I.A.
Warren S. Holmes Co., Lansing, Michigan

THERE is no phase of educational planning which is more exacting of an architect's ability as a space designer than the provision of housing for vocational programs, particularly shop facilities. Each such commission necessarily is a new challenge to his capacity for analysis of the specific program in terms of efficient use of space, and there never are two identical programs or two identical solutions in an architect's shop designing experience. This is a natural result of the many variable factors surrounding shop planning, such as the program objectives, individual conceptions of the vocational education process, site and space restrictions, and financial limitations.

Planning school shops is a cooperative venture of the highest order, requiring fullest exchange of information between the administrator, the instructors, and the architect.

If there is any fundamental consideration which can be termed more basic than any other it is this mutual realization of the cooperative nature of such planning. The contribution of each reaches its fullest significance only when supplemented by that of the others—assuming competent understanding of the problem by all.

The remaining fundamental considerations may be rather simply expressed: (1) establishment of the type and scope of the program to be offered; (2) determination of the location; (3) tentative selection of the equipment for each unit; (4) establishment of the character and extent of auxiliary facilities; (5) estimate of cost and available appropriation; (6) provision for flexibility.

There is no significance attached to the order of listing. From the architect's viewpoint, the considerations are equally important and, having been determined, may be correlated, integrated, and translated into the end result known to the profession as the "working drawings and specifications" according to the talent and abilities of the individual architect.

Establishment of the program is, very properly, the province of the administrator and vocational staff and is usually far advanced before thought is given to an architect. This is perfectly sound procedure and wraps the program in a neat package for the designer's analysis. On the other hand, there are many intangibles affecting proper planning which may be lost through this process.

Determination of the program presupposes setting forth the objectives which arise from the nature of the community. The methods to be employed in realizing these objectives definitely reflect an educational philosophy. Yes no statement of program, complete as it may be, can include the many revealing discussions surrounding its establishment. It is these discussions which bring out the many facets of the community characteristics and educational needs which properly should be a part of the architect's background. They clarify his thinking and may be invaluable in his understanding of the true nature of the problem. Many are the details brought out in even general discussions which never would be captured in the ordinary development of the project.

It is for these reasons that the earliest possible inclusion of the architect in the planning process is recommended. This, it should be emphasized, starts with the inception of the program and not with the first sketching which may be done.

As a fundamental consideration, determination of the location of the facility is a decision which vitally affects the layout of the units required. It goes hand in hand with the establishment of the program and is largely an outgrowth of the objectives to be obtained, since these will determine its relationship to other educational facilities.

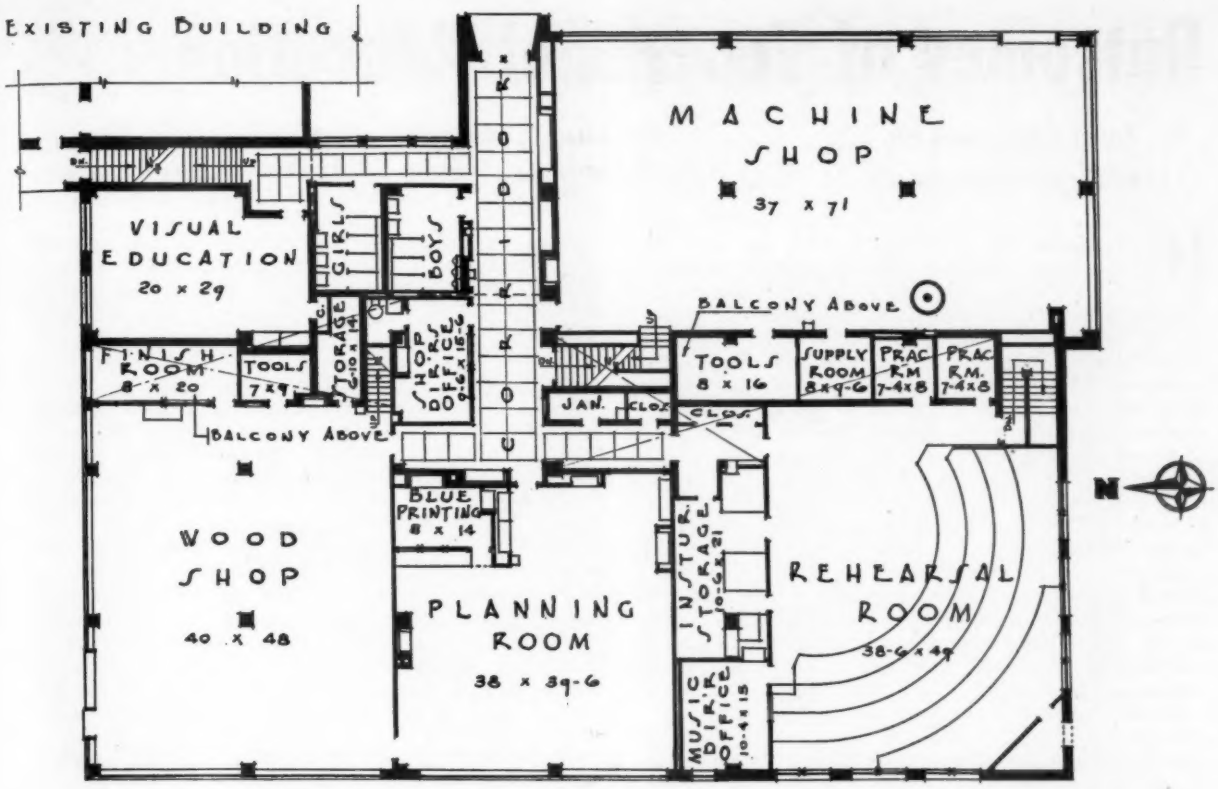
If planned as a part of a new secondary school, governing factors will be its connection with other activities, student and vehicular accessibility, noise isolation, and proper natural lighting. If it is to be an addition or semi-attached, the same considerations will govern but only within the limitations imposed by the existing structure and the site.

As a new and separate building on a new site, the requirements of the program can be most fully the decisive factors in the location of the proposed facility. Yet the site must be selected upon the basis of geographical considerations, property availability, and real estate values.

The function of the architect at this state is apparent since reliance is generally placed upon his appraisal of the possibilities inherent in each of these conditions. It also is at this phase of the planning that the first compromises may become compulsory.

The problem of shop planning essentially is the housing of a learning process in which the tools employed, because of their number and bulk, make more than the usual demands upon space design. It is, accordingly, next to impossible to estimate adequately area requirements without a detailed analysis of the type and function of each piece of equipment. Its selection is the responsibility of the vocational administrator and the more detailed the list can be made, the more intelligent will be the preliminary planning performed by the architect. Study of the relationship of the various machines and processes is most essential at this time, particularly in the more extensive programs. Here, particularly, full exchange of information between the administrator and the planner will eliminate misunderstandings which might prove embarrassing later.

Establishment of the character and extent of auxiliary facilities is a basic consideration which, together with selection of equipment, will determine desirable floor area requirements. Among the facilities included are theory and planning-rooms, offices, locker-rooms, project storage-rooms, stockrooms, toolrooms, and specialized process-rooms. The scope of these vary greatly from project to project and no less detailed a list should be compiled than that prepared for equipment.



FIRST FLOOR PLAN

The floor plan for the vocational unit proposed for the Three Rivers, Michigan, High School has essentially the characteristics of a separate building, although attached to the existing high school. The stair at the northeast corner is the only connection. From the north, which is the street side, the structure has the appearance of a one-story building, but due to the sharp incline of the site to the south, it has been possible to provide a lower floor of the same size as the first, and with adequate natural light. This will be used for general shop and school storage until expansion of the vocational program requires its use. Expansion facilities thus are built into the structure.

Treatment of the grade permits direct truck delivery to both shops, and mezzanine facilities for project storage and clothes lockers have been provided as indicated by the balcony note. A wash fountain in the machine shop and wash sink in the wood shop supplement the toilet facilities shown. Indication of equipment layout has not been made because of the scale of the drawing.

Requirements of the program, restrictions of the site size, and financial limitations made the most careful planning necessary, as evidenced by the minimum areas devoted to corridors and the use of mezzanines. Various and complete built-in cabinets have been provided for the planning room and elsewhere.

The essential facts of the project now have been established to the point where the architect may proceed to preliminary sketch studies. These should assess the program in terms of cost.

Cost is of great importance and should not be subordinated to the preparation of scheme after scheme in the search for the ideal, only to find it impossible because of financial limitations. The sooner the matters of cost and appropriations are faced, the more rapidly and satisfactorily will planning proceed.

Compromises and economies frequently have to be effected and an early awareness of this, on the part of all participants in the planning can result in a sustained morale and bring about constructive planning of the highest order.

Development of shop programs during the past few years indicates that in this, as well as other educational planning, the architect is not concerned with a static concept. Broadening of the base of instruction is constantly apparent and the ideal of the moment may become only another dated shop building a few years hence. Add to this the possible compromises already mentioned and there can be no question of the value which attaches to the provision for future changes and additions.

Flexibility should be one of the fundamental considerations, requiring foresight in layout and structural and mechanical design, the first being the concern of all as well as the architect, the last being essentially a function of the architect's organization.

It is not a simple matter to anticipate the possible needs of the future but certainly no blame can follow if every effort in the design is directed to this end within the limits of the visible trends.

These major considerations which are fundamental to shop design differ little from the fundamentals in planning any structure. This is no accident, since the best planing results from a mutual flow of information regarding the problem between the designers and those who will utilize and administer the building.

Outcomes of Vocational Education

Total Education of Individual Improved

G. B. LEIGHBODY
Supervisor, Industrial Teacher Training
New York State Department of Education

MANY professional educators believe that the value of vocational education consists solely of development of skills and knowledge leading to success in earning a living. A considerable section of the general public appears to share this belief. Those who hold this opinion admit that well-conducted programs of vocational education usually achieve the values which they recognize. Persons who avail themselves of vocational education at its various levels clearly profit in terms of occupational success. They are assisted in preparing for an appropriate job, in securing a job, in improving themselves on the job, and in securing a better job. This is the purpose of vocational education. It represents that area in the total development (education) of the individual for which vocational education assumes a particular and prime responsibility. Nevertheless, vocational education, in performing its special function, makes other contributions toward the whole education of the individual which seldom are recognized.

Helping people to realize occupational adjustment and job success is no small contribution to the individual and to society. For the adult, the experience of holding a secure job suited to his capacities, talents, and energies, and fulfilling an honest economic or human need, is a basic requirement for successful living. From this experience flows much that is desirable and necessary in a man's life. Physical health depends greatly upon it, if for no other reason than the need to pay for necessary medical services and for healthful and hygienic living conditions. Holding a job, and enjoying the work connected with it, are essential for emotional health and stability. The subtle influences associated with self-respect, peace of mind, the respect of others, and the pride of daily accomplishment require satisfactory job adjustment in modern society; they nourish and sustain mental and emotional health. John Dewey has said, "To find what one is fitted to do and to secure the opportunity to do it, is the key to happiness. A NEA committee report states: "A congenial life work is the first requisite of a rich personality." It seems probable that, other things being equal, a man who is happy in his job should be a more thoughtful and unbiased voter. He is likely to be more tolerant and well-disposed toward his fellows. He is surely a better member of a family. His mental and emotional energies are less consumed by worry, dissatisfaction, and fear. These energies are more apt to be turned toward constructive personal, civic, and social affairs.

IF such outcomes are important, no educational program can be considered complete which does not devote a sizable part of its total efforts toward helping people to achieve them. Sound vocational education performs this service.

The methods, materials, and subject matter of vocational education are peculiarly adapted to encouraging other desirable outcomes of the educative process. Educational philosophers and critics of education frequently point out that a major outcome of education should be the ability to think clearly. Few people can think in the abstract without frequent reference to the concrete. This fact probably accounts for much of the frustration and early school leaving by high school pupils who are required to pursue studies which are largely abstract and bookish. Most people can best learn to think when they are doing something which has meaning and purpose to them and are thinking about the doing. Modern occupations increasingly require accurate and careful thinking for their successful practice. The industrial worker, the farmer, the merchant, and the professional worker must learn to think clearly and logically in terms of the "know how" and "know why" of his occupation. Training and practice in such thinking form a constant and growing aspect of every program of vocational education. Cultivation of the thinking habit is not the exclusive prerogative of the study of traditional, abstract, general subject matter. A surprising number of educators still appear to believe that it is and the doctrine of the faculty psychology still is implicit in their thinking despite a thousand experimental results to the contrary.

THE nature of vocational subject matter and the materials with which it is taught require individualization of instruction to a very considerable degree. The extent to which this is true can hardly be appreciated by those who have taught only subjects in which mass instructional methods are appropriate. One fact alone explains in large part why much of vocational education must be taught on an individualized basis: identical equipment and materials usually cannot be supplied to every pupil at the same time, as in the case of the textbook type of subject. This results in several desirable types of experiences for the pupil. More personal responsibility for planning, organizing, and executing work is thrust upon him than when mass methods of instruction are used. His individual strengths and weaknesses are more apparent to the teacher and can be made more apparent to himself. Individual judgments and decisions are required in nearly every task that is undertaken. Habits of independent thinking, of self-reliance and resourcefulness, are strengthened by practice.

It is not necessary to claim a high degree of carry-over of these abilities and habits into the non-vocational activities of the pupil's life. The extent to which they do so is subject to the same factors of probability which experiments in the transfer of training have disclosed for all subject matter. Vocational subjects "train the mind" in the general sense, no more than but equally as well as the traditional, abstract, academic subjects, the study of which is so often defended upon such grounds. It well may be that the transfer of training in desirable habits of thinking is greater in the case of vocational subjects because these subjects are more in harmony with the real life purposes of more young people than are many of the traditional school subjects. This makes for a more purposeful and understanding pupil approach and a better learning outcome.

(Continued on page 41)

Cleveland School's Food Department Gives Thorough Course and Experience

A cafeteria course is given girls in the sophomore year at Jane Addams Vocational High School

DELLA SHORT

Supervisor of Foods
Jane Addams Vocational High School
Cleveland, Ohio

WHEN a girl enters the foods department in the Jane Addams Vocational High School in Cleveland, she is placed according to her previous training and experience. There are beginner's classes for those with little or no foods background where fundamentals of cooking are given with emphasis on cleanliness, dress, and good work habits.

In the food science classes the first and second semester girls approach food preparation from the scientific angle. By experiment and discussion they find the "whys" of the cooking done in their other classes.

In the sophomore year the cafeteria course is given. Girls prepare and serve the food to the entire student body, preparing in quantity and using institutional equipment. Potatoes peeled in the power peeler, steamed in the steamer, and mashed in the electric mixer are a far cry from a serving for four in a foods class. The "assembly line" in making sandwiches and salads is intriguing. Setting up the dining-room and counter, posting the menu, giving all a professional appearance, are some of the morning duties in addition to food preparation.

The junior year is spent in the bake shop. Here basic principles of baking are taught—materials to be used, equipment, care and use of utensils, trade terms and related problems in mathematics, cost accounting, safety, and sanitation.

Laboratory practice in the first semester familiarizes the student with fundamental types of operations used in preparation of bakery products. Each one is given the privilege of buying a finished product for her family use at least once a week. One class period each week is spent in cake decorating. Correlated with art, the student is able to make her home baking more artistic and placements have been made commercially in the decorating field.

The advanced baking class takes special pride in participating in quantity production of rolls, cakes, pies, and cookies for the cafeteria, the tearoom, and for special orders. Unusual interest is taken in an order when students know for whom the cake or baked goods is made and for what occasion.

Menus are varied constantly so that work at the pastry table or any station gives continued variety.

Cooking, carving, and serving meats is taught in the course

Also there is a change of stations and work partners at least every 10 days.

Special features and special sales to teachers all make for interest in the shop, particularly when a student's suggestion for a certain product is followed.

The tearoom course is planned for the seniors and advanced juniors. These girls wear a special uniform which sets them apart as the tearoom girls. It is their privilege in this class not only to prepare food but to serve the faculty and outside guests.

Girls work in week assignments on the various jobs in the kitchen such as salads, vegetables, main dish, and desserts. The foods girl sets up the steam table and serves the plates in an attractive manner. Lovely English ware dishes, nice glassware and silver, add much to the service. The aim in the tearoom is to prepare excellent food always, and the extra touches that change plain food of good quality into party food are of great interest to the girls and keep them happy on the job.

Setting up the dining-room is part of the daily duty of the waitresses. This is an attractive room with Colonial maple furnishings. It is a well-kept room with polished table tops, gleaming silver, and sparkling glass. Lace cloths and fresh flowers add to the cheerful appearance. At serving time the girls dress in navy dotted Swiss uniforms with organdy collars, cuffs, aprons, and head bands. Their appearance is important to them; hair, nails and make-up must be just right. They take pride in serving the teachers and other paying guests. Special parties at long banquet tables, with unusual first courses, colorful salads, and tempting desserts lend interest to daily tasks, while trays of canapes, hors d'oeuvre plates, and tea sandwiches always give a lift.

Each senior girl participates in the tearoom management. She has one week in the semester for which she must plan the menu, make out the grocery orders, plan and give the daily assignment to the class, and keep the accounts. At the end of the week she makes out a report showing food cost, income, and percentage of food costs. She has a lively interest in what is being used and how it is used when she has figured cost and profit or loss. It also is her responsibility to act as hostess in the dining-room during the serving period, and so has an opportunity to see customer reaction to her meal.

There are many reasons why foods girls are interested and happy with their work. First, there is fairness in distribution of work. Each girl has her definite job with adequate instructions. This, with close supervision, tends to turn out good work and a contented worker. Each one sees a job through from start to the finished product. Whether she is making breaded chops, cakes, rolls, salads, or ice cream she starts and completes the job. Therefore she has interest in the final result even to the reaction of the consumer.

Girls have a midmorning rest and relaxation period of five to ten minutes with a bit of food for a pickup, and at the close of the morning period may have a shower if they wish.

Good shop practices and techniques are followed so that each girl has had training that will enable her to work successfully and happily with her fellow workers, at the completion of the course.

Placement plays an important part in each girl's life. She lives with the dream of the day when she will have a job in her chosen vocation or a home of her own. During the training period in the three types of food service, her abilities and capacities are discovered. It is then possible for the coordinator to place her in the kind of work in which she is most skilled. Whether salad girl, pastry cook, cake decorator, floor girl, waitress, or cashier, her background and training are an asset. She is equipped to go from the training of the school, hold a job, and perform the duties of that job sufficiently well to meet the standards in industry and in the community.

Teachers in the Commercial Foods Department have a feeling of work well done when they encounter these former students in the business world as efficient wage earners, as charming hostesses at alumni functions, as successful teachers in adult education classes, and in their homes as capable homemakers.

In the bake shop girls learn artistic decoration of pastry

Veterans Change the Curriculum

North Dakota State School of Science Gives Trade Students Business Course

F. H. McMAHON
North Dakota State School of Science

PRESIDENT CONANT of Harvard recently advocated a wide extension of two-year terminal training in junior colleges. As such training tends to be primarily vocational this means that, as far as high school graduates are concerned, he approves training in business and training in trades and industry. This is a far cry from the savage attack which another Harvard man, George Herbert Palmer, made upon the junior college movement more than 40 years ago and a far cry also from the impractical Utopian dreams of Robert Maynard Hutchins.

The junior college and trade school movement, often working together, during the past 40 years have developed the most significant scheme for democratic education that this country has yet seen. The period of difficulty is over. The business leaders in education are now recognizing the vocational system for what it is evidently worth. But the recent influx of veterans and the intelligent demands that they make prove that the period of experiment and adaptation is by no means over. The work described here gives a single example of such experiment and adaptation.

The State School of Science is the second oldest junior college in the United States. Since 1921 it has been operating under a plan proposed by the late Dean Earle J. Babcock, former dean of the School of Mines at the University of North Dakota. The Babcock plan provides for three separate interacting departments: trade school, business school, and junior college. Since the minimum age limit for entrance is 16 years, nearly all students are either high school graduates or others mature enough to meet requirements met by high school graduates.

At the present time the trade school has the largest registration and a great majority of its students are veterans. In the past, the majority of graduates of the trade school have operated as skilled workmen and as conductors of business following the lines of their trade. At the present time the plans of veterans to operate their own businesses caused the demand which has started a new subject called *"Business Fundamentals."* The class consists of 30 students who are taking radio and refrigeration. Obviously successful, it is quite likely that it will be expanded to include students from other trades. It is given through one term for one class hour per day.

The class was designed to fit the needs of veterans who will be setting up their own shops and employing men with the aid of G. I. Loans; it is also a result of the testimony of alumni who are already in business and have written to the school saying that they needed such training.

The new class is a good example of one of the many ways of interaction between trades, business, and college at the State School of Science. In this case the course is offered by the business school for the benefit of trades students. The instructor, H. L. Haberman, is professor of accounting in the college business department and is also an expert practicing accountant.

In past years the business school has been able to give valuable service to trade school students along such lines as trade bookkeeping, business English, typing, and accounting. Trades students will also take many allied subjects within the junior college.

The new class, however, differs from those just mentioned in that it is wholly vocational in structure and method. No formal textbook is used. The student has at hand such ledgers, filing cards, and forms as he will be actually using in the conduct of his later business. Every detail of radio and refrigeration shop is taken into consideration, from the point of obtaining a loan and planning a building to the equipment of a store and relations with a small group of workmen.

A great many former students have become proprietors of small businesses and a great many present students, veterans especially, have the same aim. It often happens that a highly skilled trades worker finds himself at a serious loss when confronted with the task of planning and conducting his own business. This is the problem worked out by the class in business fundamentals. They learn and discuss such matters as choice of location, plan of building, G. I. loans, interior arrangements, purchase and installment of equipment, merchandising, hiring and supervising employees, legal questions, taxation, insurance, keeping accounts, and use of business machines. It is not a question of training for expertness but of giving skilled workmen enough perspective to help them organize and direct a small shop.

In one session recently observed, the students had made out typical payrolls and were making out the tax forms relative to social security on such a payroll.

The plans for the course include talks by local businessmen, bankers, and lawyers and other experts on subjects pertinent to class study. If the course, experimental at this stage, is a success it will be opened to all trade students in the future.

Open to a majority of trade students at present is the class in public relations, conducted by Landon Petersen.

Looking toward the future, authorities have in mind the outline of a full-day course extending through one term along such lines as those indicated here. That would serve the needs of men who have already acquired skill, but who want a brief, intensive training in the conduct of a business. It would include such subjects as business fundamentals, accounting or bookkeeping, public relations, business law, and if time permitted, business English and practical public speaking. The development of such a course seems inevitable in this and other trade schools. Vocational educators have reason to be thankful for the insistent requests by veterans whose maturity and ambition are promoting improvements in vocational education.

We've Come a Long Way from

Longhorns by the millions ranging the western grasslands from the Gulf Coast to Montana . . . building empires . . . making history and legend on the great cattle trails! That was sixty and more years ago. Then the railroads came, much of the range was fenced and the fate of the longhorn was sealed. Shorthorn, Angus and Hereford bulls came in from the east. Gradually, the longhorns were bred out of existence, until today only a few isolated "museum" herds are left.

This is one story of continuing livestock progress, of better animals developed to meet changing conditions and needs. Who knows but that in another fifty years today's "best" may look as old fashioned as longhorns do now.

With hogs, one amazing change is in the increased speed and efficiency of producing pork. Three years once was needed to raise a hog to market weight. Today, pigs often weigh 200 to 250 pounds at six months or less. Straight line and cross-bred breeding experiments seek even more efficient hogs to make weight in the same short time, but produce more meat.

In lambs, development is directed toward "dual-purpose" breeds. Certain breeds have been best for wool but not best for meat. Others produced the meat but were lacking in wool. Researchers have made progress on breeds of lambs to produce both meat and good wool economically.

A first step in the improvement of any animals or any herd is to *use proven sires on dams of known productive ability*. The eye alone is not enough. To know *production records* and *ancestry* is vital. Bull grading programs offer greater certainty in choosing a sire. Weighing young animals at weaning time and marking them is important, especially in the selection of gilts. A "touch system" of sheep grading is proving helpful in culling large bands in little time.

On any matter pertaining to livestock breeds or breeding, Swift & Company has no favorites. We serve the interests of producers of *all* breeds, in *all* parts of the country. We urge you to watch carefully your farm publications, and the bulletins of your state agricultural station, and the accomplishments of successful breeders for latest news about the kinds of livestock which you raise.

Martha Logan's Recipe for

UPSIDE DOWN CHILI PIE

(Yields 6 servings)

1 pound ground beef	¼ teaspoon chili powder
⅓ cup chopped onion	½ teaspoon salt
1 tablespoon shortening	1 teaspoon Worcestershire Sauce
1 cup cooked kidney beans	1 cup cooked tomatoes

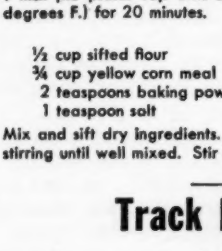
Sauté meat and onion in melted shortening. Add beans, seasonings, and tomatoes. Cover. Simmer gently about 15 minutes. Pour into a greased 9-inch pie plate. Top with corn bread batter. Bake in a hot oven (425 degrees F.) for 20 minutes.

Corn Bread

½ cup sifted flour	1 tablespoon sugar
¾ cup yellow corn meal	1 beaten egg
2 teaspoons baking powder	½ cup milk
1 teaspoon salt	2 tablespoons melted shortening

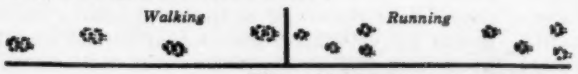
Mix and sift dry ingredients. Combine egg and milk. Add to flour mixture, stirring until well mixed. Stir in shortening. Pour over chili in pie plate.

Track Down the Facts



These are the tracks of the coyote. They *look* like dog tracks, but there are differences which the expert tracker can see.

In the livestock business, too, sometimes things are not as they seem to be. For example, some people say we waste our grain by feeding it to animals. Instead, they think we should eat the grain ourselves. They do not realize that the millions of head of cattle and lambs that are marketed every year are little more than grass turned into meat. It is true that many of these animals are fed a certain amount of grain and other concentrates to turn them into finished meat animals. However, if it were not for cattle and lambs, 779,000,000 acres of land in the United States would produce little, if any, food for humans. To put it another way, about 51% of the total land of our nation consists of grazing land which cannot be used for producing other feeds and food.



OUR CITY COUSIN

Hey, you! What makes you think soft corn is soft?

C. C. Culbertson

Store Soft Corn in Silo

by C. C. Culbertson

Iowa Agricultural Experiment Station

You may be caught with immature corn this fall. Most of us know from past experiences that there will be plenty of spoilage and loss by next spring if we crib immature, high moisture corn this fall. If you haven't facilities to artificially dry the ear corn, it seems to us that the next best bet is to store it in a silo. If a permanent silo is not available, you might well consider a temporary silo.

We ensiled well dented corn two years ago this fall in temporary silos and fed silage to fattening two-year-old steers during the winter and early spring. The steers liked the ear corn silage. The average steer ate almost 32 pounds of ear corn silage, 1.5 pounds of linseed meal, 3.8 pounds of alfalfa hay, and a little mineral and salt daily during the 113-day feeding period. These steers gained almost as much as similar steers fed the same with the exception that No. 2 shelled corn and regular corn silage replaced the ear corn silage.

Some years ago we fed ear corn silage made from soft corn to growing and fattening pigs. The feed is too bulky for young pigs, but pigs over 100 pounds in weight made fairly good gains.

The most satisfactory time to ensile the soft ear corn is in the fall soon after the first killing frost. We husked the corn with a mechanical picker and ran it through a regular ensilage cutter into the silos. If the ear corn carries less than 45 percent moisture, water should be added at the cutter or in the silo to bring it to that moisture content.

Temporary silos should be such a size that one can feed at least 3 inches of silage every day. Otherwise there will be some drying on top and spoilage.

Swift & Company UNION STOCK YARDS CHICAGO 9, ILLINOIS

the Longhorns

M. T. Buchanan

Will It Pay Me to Specialize?

by M. T. Buchanan
State College of Washington

"Should I specialize in some crop or enterprise, or should I diversify my operations?" Many farmers and ranchers have to find the answer to this question. For instance, in the state of Washington there are 63 distinct types of farming in this one state alone. And they should consider that the types of products which come from farms in different areas of the United States are not accidental. They are caused by the inter-action of physical and economic factors. The operation of these two forces has been hastened by mechanization, development of better crop varieties, breeds and disease-resistant strains.

Specialization, of course, leads to increased efficiency in the use of labor, equipment, capital and buildings. Marketing is an easier task and more time is available for maintenance of equipment and for planning new and better methods. A great deal of the increase in production of agricultural products has resulted from specialization. Farms have increased in size. Proportionately, the amount of labor needed has decreased, allowing more labor for use in other ways.

Specialize or diversify? There's plenty of "real life" evidence to help you in reaching a decision. Go visiting. See how your neighbor does it. It's *your* problem and even if you decide to make no changes from your present plan, you'll get a lot of ideas on how you can do *your* work better.

Soda Bill Sez:

. . . the man who gets what he wants is successful. The man who wants what he gets is happy.

Packers do not make livestock prices

In their day, the hardy, self-sufficient longhorns were the best breed for the open, unfenced ranges. In a land without transportation they actually took themselves to market. But the tough longhorns couldn't match newer breeds in beef production.

Calves from Hereford, Shorthorn and Angus bulls and from thrifty longhorn dams grew faster. They produced more and better meat from less feed. Blockier and of heavier frame, they yielded more of the more popular meat cuts. They were better money makers for farmers and ranchers. Such results encouraged selection of better foundation stock.

Each improvement in meat production has been met by increased demand for popular cuts on America's dinner tables. Livestock producers and meat packers have worked hand-in-hand to encourage greater demand for meat. But Swift & Company plays no favorites among breeds of beef-producing animals. We do not *make* markets . . . we find them. In our buying of livestock we transmit to producers the knowledge of the kinds of meat that are preferred in various sections of the country.

The price producers receive for their livestock is governed by what the packer can get for the meat and by-products.

F. M. Simpson.
Agricultural Research Department

• • • NUTRITION IS OUR BUSINESS—AND YOURS • • •
Right Eating Adds Life to Your Years—and Years to Your Life

Developing an Audio-Visual Program

HENRY D. BOURHILL
Director, Paterson Technical and Vocational High School
Paterson, N. J.

HERBERT J. LIPSITZ
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VOCATIONAL education has welcomed the development of visual aids with its usual jubilance over any technique which promises to promote efficient teaching and effective learning. Visual aids of some sort are used to a large extent in every portion of the vocational education field, with equipment ranging from the commercial sound motion pictures and chart materials to personally-developed demonstration equipment.

What troubles many educators, therefore, is not the establishment of the value of this type of teaching assistance, but the initiation and development of organized programs which are adequate to accomplish the goals which are inherent in desirable visual aids activities, even on a minimum basis.

The development of such a program in the Paterson, New Jersey, Technical and Vocational High School with its successes and failures may be of some value to schools in the process of organizing a visual aids program, and for those not satisfied with their existing procedures.

Visual aids of many types had been used long before the war impetus made it advisable to separate completely from a haphazard (though previously quite satisfactory) series of visual activities in order to initiate a more dynamic, comprehensive, and unified attempt. An informal committee, consisting of the administrative and supervisory staff and some selected instructors, determined that three goals were desirable: (1) to make more effective the teaching-learning process, (2) to establish the mechanics of an alert organization, and (3) to justify the program firmly to the school and community on an educationally sound basis.

In order to accomplish the first aim it was necessary to make teachers highly aware of the many values of visual aids in instruction, in order to secure more effective learning by pupils. It was agreed that the procedure or mechanics involved in setting up the organization should be hidden to such an extent that facilities would be provided without "red tape" or other complexities which might become a barrier in providing a natural and facile method of ordering, showing, and reviewing materials. Justifying the program so that funds (that horrible monster of all education) might support the activities became more than a philosophical aim. The visual aids program was conceived as a permanent, self-justifying school activity on a sound financial basis, as necessary as tools or books to the education program and so recognized.

These three simply-expressed goals appeared to be quite academic at first, but as the organization developed it was evident that had they not been stated and used as guides constantly, the entire program might have been eliminated because of a lack of direction. By basing all later procedures upon these three objectives, activities were held to specific, positive movement rather than to hurriedly planned and merely expedient action.

The visual aids committee found that there had been a lack of coordination in determining needs so far as visual aids were concerned. The program had lacked a planned schedule of presentation of materials, an insufficient amount of cataloging had been done, and instructors utilized materials only when facilities were made available with practically no effort on their parts. Inertia is descriptive of educative as well as physical processes.

This evaluation was linked to the aims mentioned previously in making final plans preparatory to putting the organization into action. These plans included: (1) entering in the budget a small but clearly-allocated sum for visual aids so that it would soon become as ordinary to expend money for equipment and materials as it was to request pencils and tool bits (It was expected that this sum would grow annually if necessary, with the purchase of permanent basic equipment on a long-term basis); (2) organizing a visual aids committee of instructors who would be responsible to the director of the school; (3) strengthening existing close ties with industry in order to secure some aid from this source; (A subsequent permanent loan of 54 sound films and equipment from the Herbert D. Hall Foundation, established to "further industrial educational methods and facilities," proved the wisdom of this portion of the plan); (4) establishing of a library to store, catalog, order, and make equipment available; (5) developing a central projection room in each of the two buildings of the school and the facilities for showing materials in selected classrooms, with a schedule showing the availability of these rooms; (6) preparing necessary forms for requisitioning materials and for listing criticisms as a basis for re-ordering; (7) ordering materials by the committee so that budgetary limi-

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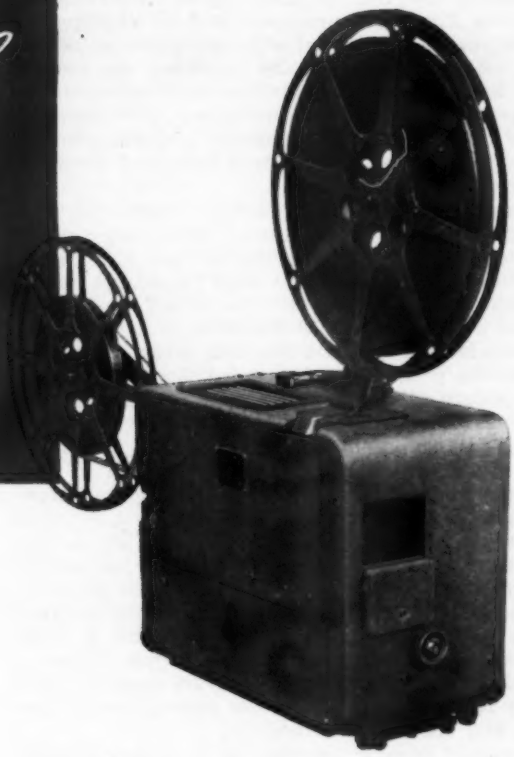

The famous teachers of classical Greece carried their textbooks in their heads and taught only a handful of wealthy youths. Today's teacher, working in the American tradition, often must instruct hundreds in the course of a day.

And now, with the highest enrollments in history, there are more and larger classes than ever before.

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tations would be met and ordering of films would be on a long-range basis with provisions for securing some materials on short order; (8) training teachers and students to maintain equipment and present materials to classes; (9) listing film sources on a non-cost and small-fee basis; and (10) scheduling meetings to insure that instructors would understand the operation, use, and value of the visual aids program and that effective learning rather than amusement would result.

This briefly-outlined plan has been in operation since the opening of World War II. That it has accomplished, in some part, the three primary aims is evident.

Financing the program proved to be the least of the difficulties. Those who prepare and those who approve budgets realize that visual aids are necessary educational tools. Also, practically all films are secured either by paying transportation costs alone or by purchasing inexpensive film strips and other materials for the library. Care of equipment and budgeting to add equipment year by year have both paid dividends in keeping costs low.

Of primary importance was a close relationship with industry and with film producers who have done so much to provide films on a loan or gift basis, especially through the Herbert D. Hall Foundation which continued to send films to the school to review, criticize, and make part of the library. A number of producers have sought and received advice concerning the learning process in educational films. All schools cannot secure such aid, but many can obtain similar cooperation if the school is willing to make industry a working partner in the field of vocational education.

The visual aids committee was permitted to plan and function in a democratic and unhampered manner, but one error was made. Assuming that visual aids management might well be handled in out-of-school time alone, no provision was made for enough unassigned periods during which adequate attention could be given to the program. Many of the conflicts may be traced to the fault of not assigning at least some time each day to one committee member to carry out duties. A good visual aids program depends upon not only responsible personnel but upon allowing time to plan and operate activities.

The central library functions as a storage facility, cataloging service for films and equipment on hand as well as their use by departments, and as an ordering agency. One member of the committee is responsible for storing and projection; another orders films, arranges for presentation, and prepares previews, testing, reviews, and critical analyses as a basis for reordering.

Requisitioning of loan materials is regulated to present at least two film showings a month to the school at large. Two films are shown each time, one a technical subject, the other non-vocational.

Students are told what to look for in a memorandum to instructors concerning scheduled films. Too often there is insufficient follow-up by the committee to see whether individual teachers review the film material or at least introduce the subject to students. This is another weak point for it requires time to see that adequate previews and reviews are encouraged by developing materials for use by teachers. More must be done in the future to encourage more intensive use of drawings, sketches, charts, graphs, and models as part of the visual aid program.

Paterson's experience shows that strip films and other "still" visual aids are more effectively produced than the commercial sound film pictures which often contain too much advertising, are entertaining rather than instructive, and are defective in not employing more animation to show "hidden" movement. In many instances personally-developed materials far surpass commercial films.

Four pitfalls to avoid in establishing a program are: (1) insufficient time allocated to personnel to keep the program active; (2) laxity by teachers in carefully previewing films and in making specific teaching applications to shops and classes concerned; (3) inertia by some instructors in using facilities, and (4) overemphasis upon sound films which are easily presented, with inadequate attention to such aids as the opaque projector and charts which require more effort.

Paterson is concerned more with these weaknesses than with what others praise as success, and hopes that these faults will be eliminated in the near future. Schedules will give more free time to committee members, there will be in-service work concerning visual aids, and more effective dissemination of information about films on hand and about those to be ordered.

The time will never come when we can agree that we have a perfect or even adequate program in visual aids any more than we shall have in educating pupils to become completely competent and wholly contributive citizens of a community. The lag between theory and practice may be shortened, but it continues to exist, unfortunately.

NEW IN THE AUDIO-VISUAL FIELD

Victor Animatograph Corp., a division of Curtiss-Wright Corp., has a quality, lightweight 16mm sound motion picture projector on the market for school, home, and business use. Known as the Victor Lite-Weight, it is 52 per cent lighter and 69 per cent smaller than the standard Victor yet retains most of the features of the larger machine. It has an aluminum case and the demountable speaker fits inside the projector case for carrying purposes. It is mounted on the front of the projector during operation.

RCA's Sound Equipment Section has a new line of selector intercom systems, featuring five different models of master and remote stations. The master and remote stations may be hooked up in any combination to produce a communication system desired in schools, offices, factories, etc. Cabinets are in matte-black plastic with satin-chrome speaker grilles.

Allied Non-Theatrical Film Association has gone on record as favoring the program of special merit awards for schools excelling in the use of audio-visual materials and methods. The project, announced by the NEA Department of Secondary Teachers, is being administered by Dr. William Lewin, Weequahic High School, Newark, N. J. The National Association of Visual Education dealers also has endorsed it.

The new Winpro 35, manufactured by Webster Industries, Inc., is a fixed-focus 35mm amateur camera in the low priced field. It takes color or black-and-whites, is precision engineered, and has an injection molded case made of unbreakable plastic in a soft shade of gray instead of the usual black.

(Continued on page 29)

Inventorying and Ordering Supplies in a Local Vocational School

System Followed in New Jersey is Serving a Two-Fold Purpose

EDWARD BERMAN
Assistant Superintendent of Schools
Bayonne, New Jersey

ORDERING supplies, tools, and equipment for a vocational school follows a system regulated by state and local laws, the rules and regulations under which the local board of education operates, and often custom and tradition which have developed over the years.

In New Jersey the state law requires that all purchases of tools and supplies exceeding $250.00 must be advertised for competitive bidding. Purchases of less than that amount may be made without such bids and equipment may be purchased, in any sum, without competitive bidding. Specifications must all be of the "open type." This can be achieved by including the words, "or equivalent" in the specifications when writing them, with the stipulation that the school reserves the right to determine whether the equivalent is actually an equivalent or not. Often a dealer who submits a bid "writes in" the description of what he will substitute because he knows that what he is submitting is not an equivalent and the school authorities must be on the alert to properly evaluate such "write in" specifications.

Competitive bidding and quantity purchasing involve: (1) careful inventory systems, (2) carefully prepared purchase lists, and (3) exactly-written specifications. In a department which has only one shop or laboratory the task of preparing the purchase lists with the exact specifications devolves upon the one teacher. Where the department is large enough to require several shop and laboratory teachers, one teacher usually is selected to act as stock clerk and order clerk for the department. It is his duty to look after the supplies stockroom, maintain a constant running inventory of tools and supplies, receive and check all shipments of purchases, issue tools and supplies to the members of the department, and look after the job of ordering both on an annual and an emergency basis. Since this involves time and work, the teacher who is assigned this task is given a somewhat lighter teaching load, usually. It is well to rotate this job among members of the department because only in this way can each member appreciate the task of the stock clerk and give him the cooperation he should receive to do an effective job. Often intra-departmental order forms are used so that supplies issued can be charged to a specific job or project in the event that a cost of production figure is important.

The annual order lists must be revised every three or four years because of changes in catalog numbers and changes in teachers' ideas of what they need. These lists usually are printed since copies of what is being requested must be sent to each dealer for competitive bidding.

The teacher who acts as stock clerk selects a committee of students to assist him in his duties and this committee changes each month so that the experience of looking after stock may become part of the knowledge the student acquires in his course. It is valuable training and in some trades, such as auto-servicing, it represents a definite and specific specialist's job.

Annual orders usually are made out in March. This requires nearly a month's work as there must be (1) an exacting inventory of what is on hand, (2) an estimate of what will be used up in the balance of the school year, and (3) what will be required for the following year. Often director and department must meet to plan projects for the following year which must be definitely determined before ordering can be done.

Another inventory is taken in June which involves all tools, supplies, equipment, furniture, etc. This is done to meet insurance company regulations and will serve as a basis for a claim in the event of fire or other damage. A constant running inventory is maintained throughout the year and when the new stock clerk assumes the responsibility in June, both the new and the old take inventory.

Shipments are made during the first week in September. All are received and checked by the stock clerk and lists of items received are sent to the school bookkeeper for checking against purchase orders.

Requisitions for supplies are made by members of a department to the stock clerk on forms supplied for that purpose. If the supplies requisitioned are in stock, they are issued by the stock clerk to the teacher who signs for them. If not in stock, the stock clerk will make out an emergency requisition to the director.

If the emergency requisition involves a purchase of more than $10.00 the director (if he approves the purchase) will issue an emergency requisition to the purchasing agent of the board of education who will order the required supplies from a dealer who will ship to the school.

If the purchase is for an item of less than $10.00 or for an item needed at once, the school has a revolving fund from which the purchase can be made. When the purchase slips for such items have accumulated over a period of two or three months they are presented (with a purchase order form) to the business manager of the board of education who issues a check for the total in order to replenish the revolving fund.

The only exception to this procedure is in the automobile servicing and repair department. This is run as a commercial garage and all purchases of parts are made from parts supplies firms. Each purchase is charged against a specific job and when a customer is presented with a bill for repairs on his car, he will find included in the total (1) cost of parts, (2) cost of supplies, and (3) cost of labor. The cost of parts will be substantiated by purchase slips charged against that job and represents purchases made and approved by the instructor. The cost of supplies represents the cost of cleaning rags, kerosene, oil, grease, cotter pins, etc.,

(Continued on page 41)

L. H. Dennis

From the Washington AVA Office

Bulletin on Educational Administration. We suggest that our members secure from the U. S. Chamber of Commerce a copy of their new bulletin, "The 4th R." This bulletin presumes to make comparisons of the large vocational administrative staffs with some administrative staffs in general education. The representation is not accurate and, in effect, misrepresents the vocational education field. Perhaps this is all a part of the integration propaganda.

New Federal Security Administrator. Watson B. Miller, who succeeded Paul V. McNutt as Federal Security Administrator, has been transferred by President Truman and is now Director of Immigration. Oscar R. Ewing of New York has been appointed Federal Security Administrator. Mr. Ewing is a well-trained man with a sound legal mind. A special AVA committee had a very satisfactory conference with Administrator Ewing recently. The conference dealt with some serious situations and implications which are of grave concern to our leaders in vocational education.

Veterans Farm Training Act. At a recent session of Congress, Public Law 377 was enacted. This law was sponsored by the American Vocational Association because of the disturbance created by directive No. 8 issued by the Veterans Administration in August, 1946. Following that directive a group of educators met with General Bradley and H. V. Stirling and arranged to introduce legislation in Congress clarifying the situation. Public Law 377 is the result. An interesting story lies behind the passage of this Act.

Following the passage of Public Law 377, the Veterans Administration issued a new directive, or Instruction No. 9, to take the place of directive No. 8. After the House and Senate had passed the measure and even before the Act was signed by President Truman Assistant Administrator Stirling requested a conference with a group of our leaders in vocational education. We promptly arranged for the conference. During the three-day conference, the proposed Instruction No. 9 was reviewed carefully and cooperatively between the Veterans Administration staff and the vocational education group. This has resulted in new smooth-working relationships on the national level between the Veterans Administration and the vocational education leaders.

A copy of Public Law 377 and a copy of Instruction No. 9, issued August 28, 1947, have been sent by the Washington AVA office to each state director of vocational education and to each head state supervisor of agricultural education.

The agricultural education leaders of the Southern states will meet at the Roosevelt Hotel in New Orleans Sept. 23 and 24. The purpose of this meeting is to examine and discuss the new veterans farm training act, Public Law 377, passed by Congress. (This Act was published in full in the September issue of the *American Vocational Journal.)*

U. S. Department of Health, Education, and Welfare. Legislation has been introduced in Congress providing for a new department with the department head serving in the President's Cabinet. It is proposed that this new department should combine health, education, and welfare services.

The proposal is meeting with mixed reactions as such a department might bring about a number of changes in connection with the administration of education. Already some forces are at work in the interest of some of these changes. Some of them might be of considerable significance to vocational education. It is too early to give you the details. We felt sure you would like to know that your AVA officials and committee are following this matter very closely.

New AVA Editor. The Executive Committee accepts with regret the resignation of Dr. Carsie Hammonds of Kentucky as a member of the AVA Editorial Board representing the agricultural education interests. Dr. Hammonds will be succeeded by Glen C. Cook of the agricultural education teacher-training staff of the College of Agriculture at East Lansing, Michigan.

At the December meeting of the Executive Committee the personnel of some of our AVA committees will again be reviewed as the terms of some committee members have expired and some replacements will be necessary.

U. S. Office of Education Appointments. On August 26, the following reassignments were made and announced by the U. S. Office of Education: W. P. Beard to be assistant director, State Plans Operations; W. M. Clements to be assistant chief, Agricultural Education Service; Walter H. Cooper to be chief, Trade and Industrial Education Service; James C. Coxen to be assistant director, Program Planning Operations; Jerry R. Hawke to be executive assistant to the assistant commissioner; Tom Watson to be assistant chief, trade and industrial education service; Miss Rua Van Horn to be specialist, Program Planning, Home Economics Education Service.

Change of Address. Any members of the American Vocational Association who have changed their address since paying their membership dues, should promptly notify the state association secretary. If you know of anyone who has made such a change, call this to his attention; otherwise he may not receive his copy of the *American Vocational Journal.* Each month copies of the magazine are returned because of incomplete or inaccurate address. The state secretaries send the Washington office the addresses of members at the time they pay their dues. We have no way of knowing of any subsequent changes unless you have your state secretary notify us.

L. H. Dennis

Executive Secretary
American Vocational Association, Inc.

(Continued from page 26)

The University of Idaho's Agricultural Extension Service has developed a mobile visual education unit. The power unit provides 3,000-watt, 115-volt, 60-cycle A.C. current for operation of its sound motion picture projector, for a public address system, and for general lighting. It is installed on a trailer and has travelled more than 5,500 miles in the state. An Onan-built electric generating set is part of the outfit.

The Brownie Darkroom Lamp, Model B is now available from Eastman Kodak Co. It is provided with a Series 0 (yellow) safelight cup and Series 2 (red) and Series 3 (green) cups also are available.

The Duties of a Secretary. 16mm sound motion picture, 30 minutes, one 1200' reel, black and white. There is a story, musical background, and a sound educational approach. Business Education Visual Aids, 104 W. 61st St., New York 23, N.Y. Price $52.50; rental, 3-day period, $5.00.

Accidents Don't Happen. Four films, 16mm sound motion pictures. The complete series, $50.00. *Organization,* $20; *Machines,* $15; *Handling,* $12; and *Falls,* $10. Produced by the National Film Board of Canada, released in the U. S. by Castle Films Division of United World Films, Inc., 30 Rockefeller Plaza, New York 20, N.Y.

Near Home. 16mm sound motion picture, 25 min. A film about good teaching, illustrating several principles basic to good teaching. Rental, $3. International Film Bureau, 84 E. Randolph St., Chicago 1, Ill. Also a complete rental library of the vocational guidance films sold by Carl F. Mahnke Productions, Inc.

Helping People Buy. 35mm sound slidefilm series. Available for purchase only, $100 per set with a 25 per cent discount to schools. The Dartnell Corp., Ravenswood and Leland Aves., Chicago 40, Ill.

Adventures in Research, sound motion picture, an Electron Tube wall chart, and a transcription kit, Electronics at Work, are available from the Westinghouse School Service Department, 306 Fourth Ave., Pittsburgh 30, Pa. The wall chart is $2, and the transcription kit with a Teachers Guide is $8.

Eastman Kodak Co., Rochester, N. Y. has issued three new publications in the audio-visual field: *Selected Indexes and Sources of Photographic Visual Aids, Selected References on Audio-Visual Education and Training,* and *Some Sources of Educational 2x2 inch Slides.* They are punched for insertion in the Kodak Photographic Notebook and are available on request from the Sales Service Division.

The National Film Board of Canada, 650 Fifth Ave., New York 20, N.Y., has just released its first peacetime catalog of 16mm films available in the United States. It may be obtained free of charge.

RMA Catalog of Films on Rubber is available from the Rubber Manufacturers Association, 444 Madison Ave., New York 22, N.Y.

New Books for VOCATIONAL TRAINING

Elements of Radio Servicing

By Marcus and Levy

A *how-to-do-it,* practical text, dealing with 90% of modern radio servicing problems. Logical, stage-by-stage approach. Stress on servicing procedures. Text edition, $3.60

Workbook in Mechanical Drawing

By Shriver L. Coover

***Easy-to-handle* projects and problems of everyday interest and functional value for beginners. Includes material on blueprint reading and sketching. $1.48**

Home Guide to Repair, Upkeep and Remodeling

By William H. Crouse

A new approach, presenting all phases of home repair and maintenance in one text. Familiarizes the student with all types of work needed for this purpose, including carpentry, painting, plastering, electrical work, etc. Text edition, $3.00

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Using and Managing Soils

By A. F. Gustafson

Basic information and practical suggestions on the problems of soil management and use. Organized around the practical activities of soil conservation, such as selecting land for farming and country living, tilling and managing crop soils, etc. $2.80

Simplified Roof Framing—New Second Edition

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An up-to-the-minute revision of this well-liked text. Includes a chapter on the steel square and its use, and a chapter on basic layout principles and summary of roof information. In press.

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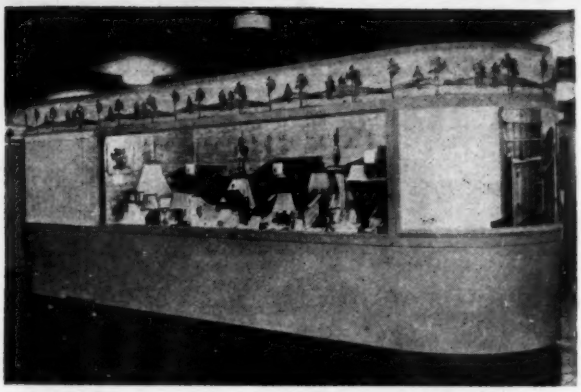

A display booth at this year's Industrial Arts Fair

INDUSTRIAL ARTS AWARDS EXPANDED

1948 Program Has Additional Classifications and Sponsors

WITH additional classifications, more sponsors, and an enlarged national advisory committee actively supporting the program, the 1948 Scholastic National Industrial Arts Awards is well launched.

Upon invitation of the Chicago Museum of Science and Industry, the 1948 Fair will again be held in that mid-west city. Exhibit dates have not yet been definitely decided but the closing date for sending entries to Chicago has been fixed as June 20, 1948.

Interest in the first National Fair, which was conducted by Scholastic Magazines, was so great that the exhibit was held open for two additional weeks, closing September 22 instead of September 7 as announced. It is estimated that more than 500,000 people saw the prize-wining entries which were displayed in a colorful setting and covered approximately 4,000 square feet of floor space.

In addition to the lay public and individual educators who attended the exhibit, several organized groups of industrial arts teachers from cities adjacent to Chicago visited the Fair for the express purpose of studying the exhibits. Their comments and suggestions for making this program of even greater help to the industrial arts education program next year, have been gratifying to the National Committee and all others who have worked to inaugurate the Industrial Arts Awards.

The 1948 Rules Booklet now is in the hands of the printer, and an effort will be made to send copies to all industrial arts and trade and industrial teachers in the U. S. Anyone not receiving a copy by November 1, should write to Scholastic Industrial Arts Awards, 220 E. 42nd St., New York 17, N. Y.

The 1948 contest again will be conducted for three groups of students. Group I is for 7th, 8th, and 9th grade pupils; Group II is for 10th, 11th, and 12th grade students who take less than 10 hours of industrial arts work per week; Group III is for 10th, 11th, and 12th graders who take 10 or more hours of industrial arts work per week, or of instruction in the field in which an entry is submitted.

Many requests have been received for photographs or films of this year's exhibit. The National Advisory Committee will consider these requests, and possible plans for producing a film strip next year which can be made available to schools for group showings after the close of next year's Fair.

Divisions and classifications for this year's contest follow:

Wood—W1. Carving, W2. Furniture making, W3. Wood Turning, W4. Patternmaking.

Metal—M1. Wrought Copper and Brass, M2. Wrought Aluminum, M3. Cast Aluminum.

Plastics—PL1. Plastics.

Graphic Arts—GA1. Printing.

Drawing—D1. Working Drawings, D2. Machine Drawing, D3. Architectural Working Drawings, D4. Architectural Presentation Drawings.

Machine Shop—MS1. Hand Tools, MS2. Machine Tools.

Sponsors for this year's Industrial Arts Awards program follows:

Wood—Delta Manufacturing Division of Rockwell Manufacturing Co., Milwaukee, Wis.

Metal—Aluminum Company of America, Pittsburgh, Pa., for M2 and M3. Wrought aluminum and cast aluminum. Scholastic Magazines, New York, N. Y. for M1. Wrought Copper and Brass.

Plastics—Berton Plastics, New York, N. Y.

Graphic Arts—National Graphic Arts Education Association, Washington, D. C.

Drawing—American Technical Society, Chicago, Ill., with supplementary awards by The Higgins Ink Co., Inc., Brooklyn, N.Y.; C. Howard Hunt Pen Co., Camden, N. J., and The Strathmore Paper Co., West Springfield, Mass.

Machine Shop—South Bend Lathe Works, South Bend, Indiana.—*George H. Fern, Director, Industrial Arts Awards.*

Farm Mechanics

(Continued from page 10)

5. Where supplies can be procured locally it is best for the instructor to assist students in figuring bills of materials accurately; allow them to be responsible for purchasing and assembling them for shop projects they plan to build "on their own." This provides increased training for the student and saves much time on the part of the instructor. The practice eliminates the necessity for the instructor to become a hardware and lumber dealer with all the accompanying clerical detail.

6. Paint, varnishes, solvents, etc., can be prepared for demonstration purposes. These materials should be kept separate from other supplies and tools.

7. Soldering fluxes can be made up and properly labeled. Place this material in a separate cabinet to prevent fumes from tarnishing other shop tools.

8. Lumber and steel should be stored vertically wherever possible, to save space.

9. Proper safety practices should be used with some supplies, particularly with welding rod. Gasoline should be stored in safety gasoline cans.

10. At the close of the school year the form suggested here can be used for inventorying supplies on hand. Advanced students can gain valuable experience in making this inventory. From this list the instructor can order the required supplies for the next school year.

In conclusion, "Beware the empty supply bins" for they will cause much loss of time for the students and many uncomfortable moments for the instructor.

Announcing . . . . . .

54 CASH PRIZES
for
ALUMINUM PROJECTS
for
your students to try for

You'll want to get your boys started early in this new competition, bigger and better than last year's. In the Metal Division of the Scholastic Industrial Arts Awards for the new school year are *two* groups of prizes for aluminum projects . . . those made from Wrought Aluminum and those of Cast Aluminum. Boys can enter either or both and compete for cash prizes.

Besides winning recognition and awards they will pick up a lot of useful aluminum know-how that may be the opening wedge to job opportunities when school days are over. Also, they will find it fun to work with aluminum.

Tell your students all about the new contest, conducted by Scholastic Magazines and sponsored by Aluminum Company of America. For full details get the Rules Booklet for Scholastic Industrial Arts Awards. Write Scholastic Awards, 220 East 42 Street, New York 17, N. Y.

TWO WAYS TO WIN

Identical awards, listed below, will be given for two classes of aluminum projects.

WROUGHT ALUMINUM

Any project made of sheet aluminum (including rod, tube, bar) in which aluminum is the major material of construction; hammered, overlaid, etched, stamped, sawed, spun or other method of handling.

CAST ALUMINUM

Any project in which cast aluminum is the major material of construction. Projects must be finished for use. Examples: Book ends, ash trays, name plates, lamp bases, candlesticks, brackets, smoking stands, lathe parts, drill press parts. Aluminum castings may also be entered in the Patternmaking and Foundry Division in accordance with the specifications of that classification.

TO HELP YOU . . . GET THIS NEW 1947 CATALOG OF TEACHING AIDS

A catalog of teaching aids including: Motion pictures telling the story of aluminum; its manufacture and fabrication; how to machine, form, join and finish it. Books on Alcoa Aluminum and its alloys; how to form, rivet, weld, braze, machine, cast and finish aluminum. Visual aids for science, chemistry and industrial arts classes. You will find a wealth of helpful material in this new catalog. Ask for the "Alcoa Library". Write ALUMINUM COMPANY OF AMERICA, 1772 Gulf Building, Pittsburgh 19, Penna.

★ AWARDS FOR EACH CLASS ★

GROUP I—Junior high schools. 1st prize, $50; 2nd prize, $25; 3rd prize, $10; six honorable mentions, $5 each.

GROUP II—Senior high schools for students receiving less than 10 hours per week. 1st prize, $50; 2nd prize, $25; 3rd prize, $10; six honorable mentions, $5 each.

GROUP III—Senior high schools, technical high schools and vocational schools for students receiving more than 10 hours per week. 1st prize, $50; 2nd prize, $25; 3rd prize, $10; six honorable mentions, $5 each.

ALCOA FIRST IN **ALUMINUM**

When writing advertisers please mention *American Vocational Journal*.

• *Employers Speak On Training for Work*

The most important training for employment that schools can provide is (1) development of usable abilities in the tool subjects of education and (2) development of proper attitudes and character traits. So said employers in a recent vocational education survey conducted in Natrona County, Wyoming. Other preparations they considered essential was orientation to employment while young people are still in school and basic education and training for the general type of work they will enter.

In 1945 a county-wide survey of employers in business and industry was conducted by the Natrona County High School at Casper, Wyoming, to obtain information for planning the education and training program for youth and adults who enter non-professional employment. Three phases of investigation were included: (1) analysis of present employment in jobs for which training could be provided, and employers' estimates of postwar employment needs in these occupations; (2) employment opportunities for persons under 25 years of age and education and training requirements for such opportunities; and (3) indications of how the school might best cooperate with business and industry.

Petroleum production and refining, and wholesale and retail trade, are the principal industries in Natrona County. All industries were included except agriculture, domestic service, and part of personal service. Local high school teachers contacted employers, using questionnaire and interview. Employers responding represented 72 per cent of all employment in the county. The Research and Guidance Service of the Wyoming State Department of Education provided technical assistance in planning, tabulation, and preparation of the report.

Data concerning the local occupational pattern and specific vocational training needs were local in application. In addition to such information the survey provided evidence of vital needs in education that have wide application in planning. Most of the employers felt that vocational training should be done on the job. Many establishments follow the practice of hiring only for beginning jobs and up-grading employees through a series of advancing positions. In all cases employers want youth who are willing to work, willing to learn, and have basic preparation for the field.

Training for employment that the schools should provide, according to these employers, should consists of: (1) Development of functional abilities in spelling, arithmetic, penmanship, and proper use of the English language; (2) development of good work habits, social attitudes, and such characteristics as honesty, loyalty, dependability, initiative, cooperation, and punctuality; (3) basic education in line with the occupational field the student will enter: practical science for jobs having a scientific background, principles of mechanics for mechanical jobs, sociology or psychology for jobs dealing primarily with people, etc.; (4) for jobs in mechanical trades and crafts the employers contacted were strongly in favor of general mechanical training; (5) for some beginning jobs (mostly in commercial occupations) training in basic job skills was desired.

Effective vocational guidance and orientation to employment were considered essential. The pupil should be given an opportunity to find out what he can do best through aptitude tests, counseling, and try-out work experience. A large part of the employers endorsed part-time cooperative work training programs.

Early selection of the occupational field is important, then education and training to give basic knowledge, understandings, and fundamental skills involved in the work. The various essential facts and requirements of employment—how to get a job, how to hold a job, and how to make progress —should be made known to pupils while still in school.

One of the greatest services that vocational education can render a community, in the opinion of these employers, is provision for upgrading workers on the job. Particular need was indicated for assistance in apprentice training programs.

The survey did a great deal toward promoting cooperation and in showing the need for relating the educational program to community needs. Many teachers gained first-hand knowledge of employment fields pupils would enter. Employers met teachers and found that the school desired cooperation; that the job of preparing young people for successful occupational life requires cooperation and coordination. The school services must work together in the school and work with agencies and elements in the community, all in the interest of each individual pupil's needs in becoming a useful citizen of the community.—*Raymond S. Orr, State Supervisor of Guidance and Research, Wyoming.*

• *An Academic Teacher Looks at "Voc. Ed."*

Like so many of my colleagues in the academic field, I have been guilty of belittling vocational education. My criticisms were really nothing but beautiful platitudes. "Vocational education fails to emphasize the cultural aspects of life," or "Vocational education is too narrow in that it makes pupils conscious of the economic part of life only. I apologize. I apologize because my criticisms were based not on actual facts but on ignorance. I was probably envious—envious because I knew that the so-called narrow type of education was far more successful in preparing young people to face the world than my supposedly broad program.

What caused my change of heart? A two-credit course in vocational education offered by the University of Michigan Extension Division. I usually groan and moan my way through education courses because the repetition of principles and theories bores me to distraction. But what happened in an advanced education course would never happened in my vocational education class. When the professor instructed his class members to write down everything they had learned in the class, one of the students was heard to say: "Does anybody have half of a 3"x5" card?"

What made the vocational education course worthwhile? A number of things. One, the class was heterogeneous. There were academic teachers, a printer, a cabinetmaker, a plasterer, an auto mechanic, an industrial arts teacher, a school principal, etc. The exchange of ideas, with both heat and light, was something remarkable! Secondly, the instructor was not of the "ivory tower" variety. His background as a teacher and as a skilled worker commanded the respect of his students. Third, the instructor actually practiced democracy in education as shown by his statement: "I always learn something from my students."

Everybody was happy. The academic teachers were happy because they found out what a tremendous program vocational education encompassed—that it was not merely the "ash tray-door stop" type. The skilled worker and the instructor were happy because they helped contribute to that knowledge.

Now, why can't all academic teachers who have sneered at vocational education or ignored it, change their viewpoints? Isn't it a pity that there is a cleavage in the ranks of teachers? I think there lies a challenge to alert vocational teachers who would like to "sell" their program to academic teachers. How could that be done? First, by encouraging all teachers to take a course similar to the one I took. (Be sure that the instructor is enthusiastic and well-versed in his subject matter. Otherwise, more harm than good might result!) Secondly, the vocational teachers should get together with academic teachers as much as possible. That is why I think that housing vocational programs in separate buildings is rather unfortunate because the academic teachers do not see vocational education in action. Such teachers should be encouraged to visit the various shops. Third, vocational teachers should emphasize the fact that while academic teachers half-heartedly preach one of the basic tenets of democratic life—the dignity of labor, vocational teachers are actually putting it into effect. Fourth, they should tell academic teachers, in a diplomatic way, that before they are accused of being too narrow in preparing pupils for vocations this point should be considered: isn't it true that if the pupils have not acquired such things as the ways of good citizenship or the love of reading by the time the vocational teachers get them, that the academic teachers are partially to blame? After all, the pupils have been under their influence up to that time. Fifth, vocational teachers should emphasize the fact that Federal aid to education does not mean rigid Federal control. Sixth, vocational teachers should make more of the mental hygiene aspect of their field. Nothing is more conducive to the mental peace of an individual than to have the security of knowing that he is prepared in some vocation when he leaves school.

My congratulations to you vocational teachers! May there be more and more money at your disposal! You are proving your worth in that you are achieving your aims in practical ways.—*Miss Elvi Heikkinen, Teacher, Royal Oak Junior High School, Royal Oak, Michigan.*

Apprenticeship Conference in Vermont

The third annual Apprenticeship Conference of the State Apprenticeship Councils of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York was held at the Equinox House, Manchester, Vt., June 12-14. Each year the Apprenticeship Councils of these states, in cooperation with the Apprentice Training Service of the U. S. Department of Labor arrange a conference for the discussion of current apprenticeship problems and to devise new methods for the promotion of apprenticeship.

More than 450 representatives of labor, management, national trade associations, state and Federal departments of education and labor, joint apprenticeship committees, and state apprenticeship councils were in attendance. The representatives were from Canada, China, the states of California, New York, Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, Pennsylvania, New Jersey, Maryland, Michigan, Wisconsin, Illinois, Ohio, and the District of Columbia.

The three-day meeting was devoted to sectional meetings on problems affecting apprenticeship. A sectional meeting devoted to related instruction for apprentices was largely attended and brought out for discussion many of the difficulties faced by school officials in providing this instruction. The meeting was presided over by Frank P. Johnson, supervisor, trade and industrial education, New York; John Nelson, director of vocational education, Vermont, served as secretary. Participants included Howard E. Swain, supervisor of trade and industrial education, New Hampshire; George H. Baldwin, state director of vocational education, Rhode Island; Daniel H. Shea, director of vocational education, Massachusetts; Charles T. Klein, supervisor, apprentice training, Bureau of Industrial and Technical Training, New York; Harry J. Patterson, supervisor, trade and industrial education, Vermont; Morris P. Cates, director, vocational education, Maine; Walter May, director, vocational education, New Hampshire. M. Norcorss Stratton, director, vocational education, Mass., was discussion leader.

Hon. Ernest W. Givson, Governor of Vermont, and Hon. Keen Johnson, undersecretary of labor, U. S. Department of Labor, were speakers at the annual dinner.

A round table discussion of apprenticeship problems and the need for a national apprenticeship program was broadcast over station WGY from the conference. Undersecretary Johnson of the U. S. Department of Labor, L. H. Dennis, executive secretary of the American Vocational Association, Claude Putnam of the Federal Committee on Apprenticeship and the New Hampshire Apprenticeship Council, E. Reynolds Johnson and Archie A. Gillis, assistant secretary, United Association Journeymen and Apprentices of the Plumbing and Pipefitting Industry, were the participants.

Apprenticeship Councils of seven states meet in Vermont for third annual conference

• Record Card

Clell C. Warriner, principal of the Okmulgee, Oklahoma, High School, has an improved type of advisor's record card which he believes has strengthened the student counceling program in his school.

Each member of the faculty of 35 teachers serves as advisor to about 30 students. At the end of each semester the advisor's card includes the scholastic record earned by the student and the advisor's estimate on 10 traits of character made after 18 weeks' association with the pupil for an hour each day. The record is cumulative from semester to semester and proves helpful in many ways to the principal as well as to the vocational advisor.

• Freedom Train

Beginning in September and to continue for one year, the Freedom Train now is touring the country. It is carrying about 100 original documents of American history which have been significant in the development of American freedom.

Community Rededication Weeks are being organized in all communities designed to emphasize the American Heritage: to stimulate a more active participation by citizens in the processes of democracy in nation, state, and community; to create an increasing awareness of individual rights and liberties as guaranteed by the national historical documents; to create greater pride in our past and in our accomplishments as a people, and a wider recognition of our obligations to the world, both to maintain our free institutions and preserve the rights and dignity of the individual.

With the Associations

★ The new officers elected by South Carolina Vocational Association are Evelyne McCollum, Columbia, president; Frank L. Barton, Woodruff, vice president; J. V. Kneece, Newberry, secretary; Ann Morgan, Greenville, treasurer; and James McClary, Columbia, editor. The guest speaker was J. J. Brown, state director of vocational rehabilitation, Texas.

★ The annual meeting of the Michigan Vocational Association was held at Clear Lake Camp of Western Michigan College of Education, with the theme "Understanding Your Association." The constitution was revised, and the following officers were elected: President, L. R. Stanley, Benton Harbor; vice president, Milton Ellison, Battle Creek. A paid secretary-treasurer was to be appointed at the meeting of the board of directors in September.

★ The Michigan Industrial Education Association has elected the following officers: president, Claud Bosworth, director of industrial education, Muskegon; vice president, Joel W. Lee, supervisor of industrial education, Owosso; executive secretary-treasurer, Arthur L. Reagh, Grand Rapids. Speakers at the annual meeting were W. C. Folley, dean of the School of Business Administration, Wayne University; Douglas Hobbs, educational director, Aluminum Company of America; Lee M. Thurston, deputy superintendent of public instruction; and Roger Zinn, Jam Handy Organization, who had charge of the Ship program.

Resolutions passed urged the full appropriation of George-Barden Act funds for vocational education; the reestablishment under the state superintendent of public instruction of the industrial arts planning committee; and acquaintance of high school students with the advantages and opportunities in the teaching profession.

★ The third annual Oklahoma State Industrial Arts Clinic was held at Camp Redlands May 26-30. At each of these clinics, drawings of projects usable in industrial arts classes have been produced. The object is to improve the design of projects made in school shops, and the drawings each year are reproduced and made available to industrial arts teachers in the state. Eventually a file of several hundred project drawings will be maintained in the Department of Industrial Arts Education and Engineering Shopwork at Oklahoma A&M College.

Graduate credit is given to those attending the clinic who participate in production of tracings and attend all lectures. Industrial educators from several states have either attended the sessions or inquired as to the method of operation, with a view to establishing similar clinics in their home states.

★ A Quarter Century Club was formed at the meeting of the Massachusetts Vocational Association in May. Robert O. Small, past AVA president and dean of vocational education in Massachusetts, was elected president of this group and it is planned to have 100 charter members. Herbert W. Moore, New Bedford Vocational High School, and past president of MVA was organizer.

M. Norcross Stratton, state director of vocational education led a panel discussion, Lt. Gov. Arthur W. Coolidge was speaker at the luncheon meeting, and there were addresses by Ralph Moye, guidance counselor of Boston University and William J. Saunders, president of Fitchburg State Teachers College. The following officers were elected: Lewis B. Robinson, Lawrence High School, Falmouth, president; Herbert P. Schmidt, Holyoke Trade School, vice-president; Kathleen G. Delaney, Lowell Girls Vocational School, secretary; Paul J. Sullivan, Worcester Boys' Trade School, treasurer.

★ Nearly 400 Wisconsin instructors in vocational agriculture, including 150 special instructors for veterans, attended the 30th annual summer conference at the College of Agriculture at Madison June 9-13. One day was devoted entirely to the on-the-farm training program, and meetings were arranged with the departments of agronomy, soils, dairy husbandry, and agricultural economics.

The Wisconsin Association of Vocational Agricultural Instructors, which met at this time, elected the following officers for the coming year: President, D. A. Hendrickson, Barron; vice-president, M. F. Ross, Ft. Atkinson; secretary-treasurer, M. S. Murray, Cameron; directors representing instructors of veterans, William Doyle, Bruce; Leonard Warner, Appleton; Parmley Harris, Mineral Point; directors representing regular instructors, Howard Askov, Osceola; Vernon Horne, Stanley; H. T. Shields, Paririe du Sac.

★ The annual meeting of the New York State Vocational and Practical Arts Association will be held in Buffalo at the Hotel Statler during the Easter vacation of 1948. Earl Boggan, general vice-president of the association, is chairman of the convention.

★ Florence Fallgatter, president of the American Vocational Association, and H. M. Hamlin, head of the vocational education department, University of Illinois, will be speakers at the Iowa Vocational Association meeting in Des Moines Nov. 6. Mrs. Helen McCleery Hubler, president, has announced a luncheon for delegates and officers preceding the afternoon program.

★ Officers of the Pennsylvania Vocational Association are: President, Joseph W. Fleming, director of vocational education, Pittsburgh; secretary-treasurer, Henry S. Brunner, head of the department of agricultural education, The Pennsylvania State College, State College; editor, J. G. Allen, superintendent of the Soldiers' Orphan School, Scotland; associate editor, C. H. Pensinger, supervisor of the print shop, Soldiers' Orphan School, Scotland; vice-president for agriculture, Byron K. Horner, teacher, Conneautville; for business and distributive education, Robert W. Strimmel, coordinator of distributive education, Allentown; for home economics education, Mrs. Lilyan Gailbrath, itinerant teacher trainer, State Teachers College, Mansfield; for industrial education, Martin Muth, instructor, West Chester; for occupational guidance, Walter B. Jones, teacher trainer in vocational industrial education, Philadelphia; for trade and industrial education, Leo Taggart, director of vocational education, Ambridge. The officers and David R. McClay, past president, will serve as the executive committee during the coming year.

★ Approximately 350 Kentucky Future Homemakers and their advisers attended the annual state FHA convention at Richmond June 6-7, celebrating the second anniversary of the organization. Doris Lloyd, Maysville, was elected president for 1947-48.

★ At the 14th convention of the Mississippi FFA, 121 Future Farmers were awarded the degree of State Farmer and four were awarded honorary state farmer degrees. A meeting of the Mississippi American Farmers was held during the convention.

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to perfect an organization to strengthen FFA work in the state. It was voted to raise $16,000 for the State Camp Fund.

★ The 10th annual convention of the New England Industrial Arts Teachers' Association will be held November 7 and 8 in Hartford, Conn. The general theme of the convention will be "Industrial Arts—A Part of General Education." Dean Merrill Schweickhard, commissioner of education, Minnesota, will be the principal speaker, and there will be round table discussions and exhibits.

★ Tennessee Vocational Association held its annual meeting in Nashville, preceding the Tennessee Education Assn. convention. Speakers included E. B. Norton, director of school administration, U. S. Office of Education, who explained the George-Barden Act and the increase of about $469,000 which Tennessee should get.

Officers for 1947-48 were elected as follows: President, W. C. Yates, Franklin; vice-president, agriculture, W. E. Robertson, Knoxville; vice-president, distributive, Mrs. Ruth Clark, Nashville; vice-president, homemaking, Mrs. Theresa L. Anderson, Dresden; vice-president, trade and industrial education, Roger Lusk, Knoxville; vice-president, industrial arts, Raymond McElroy, Memphis; secretary-treasurer, W. A. Seeley, Nashville; advisor, G. E. Freeman, state director of vocational education, Nashville. At the closing banquet, Governor James McCord was the speaker.

★ The Agricultural Teachers' Association of New Jersey, now starting its 28th year, was organized at a Farmers' Week gathering on January 14, 1920, at Trenton "to advance the profession of vocational agricultural teaching in the state." Dr. H. B. Allen was elected president of the original group, three of whom are still in active service.

Under the leadership of Prof. H. O. Sampson, now state supervisor of agricultural education, the association has functioned continuously. Officers recently elected are Warren Gredetzke, Glassboro, president; Gail Whitson, Jamesburg, secretary; and Herbert Wright, New Brunswick, treasurer. An accomplishment of the Association in the early years was establishing and sponsoring awards for outstanding supervised farming programs of high school pupils enrolled in vocational agricultural courses.

The Association has provided members with an opportunity for expressing their views and for formulating recommendations to present to the state supervisor for changes in the curriculum which they felt would benefit rural boys and girls. They have encouraged members to enroll in in-service professional improvement courses and approximately 30 per cent of the group now have their Master's Degree.

The organization, one of the oldest of its kind in the country, now is working on a project to establish a memorial to the late Prof. E. V. Bearer, formerly assistant state supervisor and teacher trainer, who was killed in an automobile accident last October.

★ Lloyd Nygard, of Velva, was elected president of the North Dakota Vocational Agriculture Association during a conference of vocational agriculture instructors held at the Agricultural College in Fargo July 21-25. Bruce Ellingson, Maddock, was elected vice-president and S. D. Owen, assistant state supervisor of agricultural education, secretary-treasurer. Emil Vallager, Langdon, and Everett Tool, Elgin, are officers-at-large. Don Erickson, Rugby, past president, and Ernest L. DeAlton, state supervisor of agricultural education, also are members of the executive committee. Winston H. Dolve, Fargo, assistant to state supervisor, was presented with a 10-year service key.

★ The Washington Vocational Association, which was organized in the fall of 1946, had as its president Dave Hartzog who represents agriculture, and Zoe Rae Sanders, representing distributive education as secretary treasurer. All four services are included and the presidents of each become the state vice presidents. For agriculture, F. L. Barbee, Pullman; for distributive education, Lloyd Cook, Spokane; for homemaking, Minnie Gerrietts, Mt. Vernon; for trade and industrial, Les Herman, Spokane. Membership was increased by 75 last year, and the association hopes to double its membership this year.

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Research Bulletin No. 2—A Study of Industrial Teacher Education at the Graduate Level. 1941. Pp. 42. Price, 10 cents each; 10 or more, 5 cents each.

An Enlarged Program of Vocational Education With Special Reference to Larger Administrative Units. 1943. Pp. 52. Price, 40 cents each; 10 or more, 35 cents each.

Improving Instruction in Industrial Arts. 1946. Price, 25 cents each; 10 or more, 20 cents each.

State Supervision of Industrial Arts Education. 1946. Free.

America's Vocational Schools. 1945. Pp. 56. Prices: single copies, 20 cents each; 100 or more, 15 cents per copy; 1,000 or more, 13 cents per copy.

The Carry-Over Into Homes of the Teaching of Family Living to In-School and Out-of-School Youth. 1943. Pp. 17. Prices: 1 to 9 copies, 20 cents each; 10 to 99 copies, 15 cents each; 100 or more copies, 9 cents each.

Evaluative Criteria for Vocational Education in Agriculture. 1942. (Revised). Pp. 75. Prices: 20 cents each; 10 or more copies, 15 cents each.

Manual of Directions for Use with "Evaluative Criteria for Vocational Education in Agriculture, 1942 Revision." 1943. Pp. 15. Prices: 1 to 9 copies, 10 cents each; 10 to 99 copies, 9 cents each; 100 or more copies, 8 cents each.

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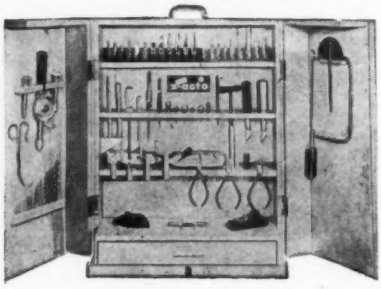
As a service to our readers we present this round-up of new equipment, materials, and catalogs of interest to vocational educators. For further information write to the AMERICAN VOCATIONAL JOURNAL, 220 E. 42nd St., New York 17, N. Y.

Owens—Illinois Glass Co. have introduced the Shelfline, a stock line of glass containers which fits on any shelf and shows the contents.

Higgins Ink Co., Inc., has a new drawing ink tray which comes in two types, the open and closed tray. The open tray is expected to be most popular for school use and for artists; the closed tray will be preferred by draftsmen. Both hold four desk bottles of Higgins drawing ink.

X-Acto Crescent Products Co., Inc., won first prize in the point-of-sale contest of the Model Industry Association with a new No. 89 X-Acto



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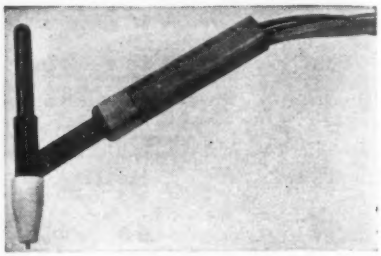
Bavinco Manufacturing Corp. has published its new "Book of Homemaking Equipment," designed to serve as a guide and reference for those responsible for planning homemaking departments in schools and universities. The book is more than a catalog listing for it contains time and money-saving suggestions, floor plans, and an explanation of the company's planning service.

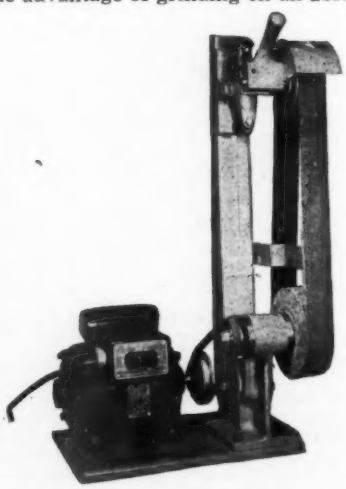
King Kut Division of the AP Parts Corp. has a newly designed knife handle with No. 1 blade installed, which is capable of taking all 22 King Kut cutting edges. It retains the "chuck-with-the-vise-like-grip," is made of solid aluminum with hexagon styling, is called the Kay-Eighty and is designed for the one-knife customer.

Linde Air Products Co., unit of Union Carbide and Carbon Corp., has a new water-cooled Heliarc torch, designed for inert-gas-shielded arc welding. Known as the HW-4, it features also a lightweight flexible power cable, a gas cup of non-conducting material, and an adjustable tungsten electrode.



Plomb Tool Co. has a new bulletin, No. 4728, which describes and illustrates all pliers, adjustable wrenches, and pipe wrenches now available.

Porter Cable Machine Co. announces that the abrasive belt has now been applied to the utility grinder. The new machine provides the advantage of grinding on an abrasive belt operating over a resilient contact roll or wheel in a popular priced unit. Since the wear is on the abrasive belt and not on the supporting contact wheel, this wheel or roll remains flat, square at the corner or side, and maintains its diameter and balance. The resiliency of the roll eliminates chatter.



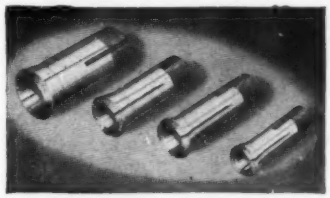
Vinco Products have a new line of automatic center punch accessories and a shock absorber action feature on the No. C-15 punch. They also are

introducing a variety of automatic center punch kits consisting of either of their automatic center punch units No. C-15 (adjustable from 8 to 20 lbs. pressure) or No. C-12 (preset to 15 lbs. pressure) together with a number of accessories which are directly attachable to these basic units.

Webster-Chicago Corp. has a portable wire recorded for speech, drama, radio, and other classes. It is known as Model 80 Wire Recorder and comes complete with microphone and three spools of recording wire. It makes continuous recordings up to one hour in length which may be replayed thousands of times with no appreciable decrease in tone or volume.

Cook Specialty Co. has a new and inexpensive device for drawing curves called Infinarc. The desired curve is obtained with specially tempered wire forms whose shape is altered by moving either or both of two adjustment screws along slots. It is available with a 12-inch base and four preformed wire curves with which it is possible to produce almost any shape desired.

South Bend Lathe Works announces a new line of precision draw-in collets made of brass. Although they are not intended to replace the more expensive hardened steel collets, they are manufactured to the same exact-



ing tolerances and have some advantages. Their low cost makes them desirable for odd sizes that are used only occasionally. When worn, a brass collet can be re-bored to a larger diameter, and they can also be machined for holding tapers or irregular shapes.

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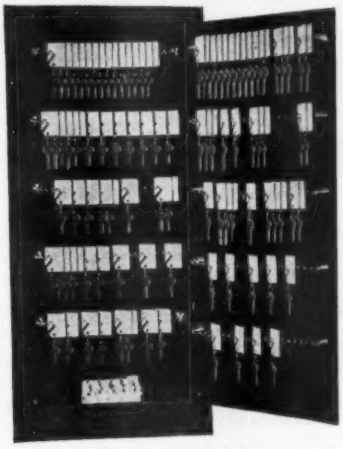

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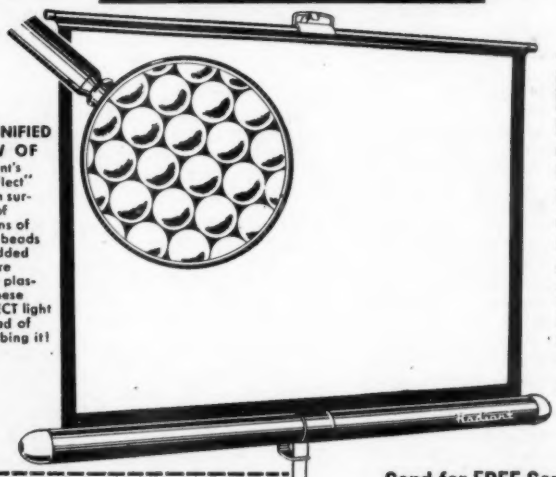

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The third edition of this book includes suggestions received from those who used previous editions. Much new material has been added.

20th Century Typewriting, by D. D. Lessenberry and T. James Crawford. South-Western Publishing Co., New York, N.Y., 1947. 162 pages, $1.84.

Newer procedures and techniques which have proved superior, have been added.

Essentials of Business Law, by Getz, Kanzer, and Gerstenberg. Prentice-Hall, Inc., New York 11, N.Y., 1947. 455 pages, $3.00.

This third edition includes new consumer topics, bringing the course up-to-date.

How to make Money by Mail, by Elmer C. Rice. Howard St. House, Melrose, Mass., 1947. 640 pages, $2.95.

Tells how to run a mail order business profitably.

Guidance

I Find My Vocation, by Harry D. Kitson. McGraw-Hill Book Co., Inc., New York, N.Y., 1947. 278 pages, $1.80.

The book takes account of recent changes, developments, and trends, adds two new chapters and a revised list of occupations in this third edition.

Outdoor Jobs for Men, by Vocational Guidance Research, project editor, Lura Robinson. The Vanguard Press, Inc., New York, N.Y., 1947. 272 pages, $2.50.

The book gives detailed information concerning aptitude and training required for many out-of-doors jobs.

Television Primer, Louis A. Sposa. McGraw-Hill Book Co., Inc., New York 18, N.Y., 1947. 237 pages, $3.50.

A manual of techniques for producing and directing television programs.

Industrial

Jigs and Fixtures for Mass Production, by Leland A. Bryant and Thomas A. Dickinson. Pitman Publishing Corp., New York, N.Y., 1947. 222 pages, $3.50.

A comprehensive text on manufacturing tools used in production of virtually all products, covering plastics, pneumatics, and hydraulics as applied to tooling.

Magnesium Fabrication, by Lothair B. Harkins. Pitman Publishing Corp., New York, N.Y., 1947. 149 pages. $2.75.

A handbook with authoritative data on all phases of fabrication of magnesium-alloy sheet, extrusions, and tubing into the finished products.

The Aircraft Mechanic, by Philip Siegel. Pitman Publishing Corp., New York, N.Y., 1947. 311 pages. $4.00.

An exhaustive collection of typical questions and answers on subjects required by the Civil Aeronautics Administration for licensing of an aircraft mechanic.

Perpetual Trouble Shooter's Manual. Volume XV of the Rider Manual Series. John F. Rider, Publisher, New York 16, N.Y., 1947. 2,000 pages, $18.00.

The Manual includes "Clarified Schematics," a breakdown to aid a radio serviceman in his complicated work.

An Introduction to Engineering Plastics, by D. Warburton Brown and Wilbur T. Harris. Murray Hill Books, Inc., New York, N.Y., 1947. 274 pages, $4.00.

The best use which can be made of plastics by manufacturers, tool designers, chemists, laboratory technicians, and purchasing agents, as well as engineers and industrial designers, is considered.

Six-Place Tables for Precision Computing. Donald V. Mitchell, Seattle 5, Wash., 1947. 48 pages, $1.00.

Provides the necessary equipment for quick handling of advanced computing.

Streamlined Methods of Computing with Slide Rule and Mathematical Tables. Donald V. Mitchell, Seattle 5, Wash., 1947. 80 pages, $1.00.

A condensed course in modern methods of computing.

Air Conditioning and Elements of Refrigeration, by Samuel P. Brown. McGraw-Hill Book Co., Inc., New York 18, N.Y., 1947. 644 pages, $6.00.

A complete text on heating and cooling, with necessary tables.

Plastics Mold Design, by Carroll C. Sachs and Eugene H. Snyder. Murray Hill Books, Inc., New York 16, N.Y., 1947. 77 pages, $4.50.

The book includes an envelope containing full-sized, detailed plastics mold drawings.

Great Engines and Great Planes, by Wesley W. Stout. The Chrysler Corp., Detroit, Mich., 1947. 133 pages.

The book deals with some of the contributions of B-29's to the war.

Railroading from the Rear End, by S. Kip Farrington, Jr. Coward-McCann, Inc., New York, N.Y., 1946. 430 pages, $5.00.
Practices and operations of modern railroading, dealing with operations from the end of the war to date.

Beaten Metalcraft, by Golden Keeley. Macmillan and Co., New York, N. Y., 1947. 72 pages, 90c.
Deals with the evolution of shape by the various processes available to the metal worker.

Organization and Management in Industry and Business, by William B. Cornell. The Ronald Press Co., New York 10, N.Y., 1947. 819 pages, $5.00
In its third edition, new approaches to major problems, such as those of personnel administration, are highlighted.

Industrial Arts

Attractive Lawn Furnishings, by Paul V. Champion. The Bruce Publishing Co., Milwaukee 1, Wis., 1947. 78 pages, $2.50.
Illustrations and working drawings for a variety of furnishings to make the home and grounds attractive.

Fun With Scraps, by Viola Hening. The Bruce Publishing Co., Milwaukee 1, Wis., 1947. 178 pages, $3.00.
Contains many original designs of varying degrees of difficulty for young and old.

More Ben Hunt Whittlings, by W. Ben Hunt. The Bruce Publishing Co., Milwaukee 1, Wis., 1947. 107 pages, $2.50.
More advanced projects than those included in the first book on whittlings.

PAPER COVERS

Educational Opportunities for Veterans, by Tracy E. Goodwin. Goodwin Publications, Cincinnati 14, Ohio, 1946. 140 pages, $2.00.

America's Williamsburg, by Gerald Horton Bath. Colonial Williamsburg, Inc., Williamburg, Va., 1946. 52 pages, 65c.

Schoolman's Almanac for 1947, A. S. Croft, Publisher, Educator's Washington-Dispatch, New York, N.Y., 1947. 121 pages, $1.25.

25 Years of Progress of Educational Services of the Division of Vocational Education in Baltimore. Department of Education, Baltimore, Md.

What Can You Expect? Committee on Character Education, 2122 N. Charles St., Baltimore, Md.

Atlantic City Technical High School, Curricula, 1947-48. Atlantic City Board of Education, Atlantic City, N.J.

Guidance

(Continued from page 13)

Is the home economics teacher informed enough about pupils and opportunities to participate in guidance on an educational basis?

Is each pupil aware of the importance of right attitudes, and right habits?

Is home economics instruction based on pupil growth and development rather than on subject content?

Is provision made for counseling? Is counseling effective?

Is there provision for individual instruction?

Does the teacher have time for placement and follow-up work or for coordination?

Does the home economics teacher have a significent part in the guidance program of the school?

Does good guidance permeate the entire home economics curriculum, not in part only?

Do teachers make an effort to continuously improve in good guidance and counseling techniques?

Are the proficiencies acquired by each pupil those that measure efficiency of instruction?

Continuous evaluation is fast becoming a necessary function of all home economics teachers in Michigan who keep up to date and alert to needs and conditions of the program in which they work, guide, and direct activities.

A recent study reveals the need for home economics teachers and school administrators to devote more attention to (1) behavior problems of boys and girls in every day life as a basis for planing and guiding the home economics curricula, (2) desirable approaches to adjustive guidance, (3) devices and techniques for developing effective study habits and work, (4) improvement in counseling and interviewing techniques, (5) use and interpretation of information dealing with case studies, (6) more adequate and effective relationships of home and school, and (7) an opportunity to participate in in-service guidance training within the school.

Homemaking teachers must become more proficient in many phases of the program.

During the past 20 years home economics education in the U.S. has blazed a deep trail in certain phases of guidance through home visitation and contacts with parents and community leaders, organized and directed educational experiences in the home or community, and by providing extended education for the community through adult education in all phases of home and family life. It is not enough to provide such services; we must become more proficient in these and other important phases of growth and development of youth and adults. It might be well to challenge objectives, the program of work, and activities in an effort to find where strengths or weaknesses exist, then to attack the weaknesses with force that produces desirable results. Home economics must be kept prominent and necessary in the educational program. To do this it is necessary to move on all fronts for which home economics education is responsible, not on any one alone.

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Who's Who

Byron Berry, formerly of Exeter, N. H., and president this year of the New Hampshire Vocational Association, takes a new position at Bristol, Conn. He has been very active as an AVA and NHVA worker and will be missed. **Norman Collishaw**, Concord, N. H., the present first vice-president, will serve as acting president until the association meets Nov. 8.

R. Jocelyn Crichton, formerly secretary-treasurer of the Southern Section of the California Industrial Education Association, has been in the Philippines since last February, as director of the Department of Vocational Education of Silliman University. He is continuing his AVA membership and may develop a section of the AVA in the Philippines.

New members of the staff of district supervisors working on the Kentucky farmer training program for veterans are **Kearney Campbell, J. E. Threlkeld,** and **Carl Lemar. Floyd Cox** has been added to the teacher training department to work on preparation of teaching materials for the veterans program.

Evelyn Cotney has joined the state staff in Alabama as assistant supervisor and itinerant teacher trainer of home economics education.

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Fred H. Westberg has resigned as state supervisor of distributive education in Washington to become secretary-manager of the Washington State Fruit Commission, in Yakima.

Walter B. Jones of the Department of Vocational Education, University of Pennsylvania, has taken a year's leave of absence to serve as consultant in teacher education in Brazil. His work will be under the auspices of the Institute of Inter-American Affairs, an agency of the Department of State. His headquarters will be in Rio de Janeiro.

Doyle Kemper has resigned as state supervisor of industrial arts education in Missouri to accept a position as head of the department of industrial arts, Southwest Missouri State College, Springfield. This is a new department, to be in operation early in 1948.

The following changes have been made in the staff of the Michigan State Board of Control for Vocational Education: **Elizabeth Hillier,** formerly of Dearborn, is state supervisor of homemaking education, replacing **Wave Bowes Granger,** resigned. **Pauline Day,** supervisor of practical nurse training, has resigned. **Robert M. Winger** has been made chief of the Veterans' Vocational Training Division, Mr. Winger was formerly in charge of surplus property. Added to the Veterans' Division are **Earl Miller, Langan Foard, Max C. McCarn,** and **Lawrence Smith.** Changes in the teacher training staff: **Adrian Trimpe,** formerly coordinator of business education at Pontiac, has been appointed teacher trainer at Western Michigan College of Education, Kalamazoo; **B. Lillian Nelson** has resigned as supervising teacher of home economics education to accept a position as head of the department at Marletta College, Ohio. **Any Jean Holmblade** has joined the home economics education staff at Michigan State College and serves as teacher trainer for out-state centers. **Eulalia Toms** and **Mrs. Margaret Taylor** have been appointed teacher trainers at the Home economics education teacher training centers of Western Michigan College of Education.

New members of the Florida state department of education include **John L. Flournoy** as guidance counselor.

Miss Tracy Copp, who in 1920 helped organize the nation-wide program for disabled civilians and later became assistant director of the U. S. Office of Vocational Rehabilitation, has retired, after 46 years of public service.

New appointments on the vocational education staff in Louisiana are **C. P. McVea,** assistant supervisor, veterans program; **Lula Mae Longoria,** specialist, food conservation; **Isaac N. Carpenter** and **J. J. Stovall,** assistants.

Dr. Henry H. Kessler, chairman of the Council on Industrial Health of the American Medical Association, spoke before the British Council on Rehabilitation in July. His work at the Mare Island Naval Hospital during World War II, where he was chief of orthopedics, of rehabilitation, and of the amputation service, is widely known.

In Tribute

Miss Emily Griffith, whose lasting monument is the world-famous Opportunity School, was shot to death in her mountain home at Pinecliffe, Colorado, June 18, 1947. Her sister Florence met death with her at the hands of a slayer whose identity has not been ascertained.

Emily Griffith was born in Ohio in 1880, and educated in the schools of Ohio and Nebraska. She began teaching in the Denver Public Schools in 1898; from 1904 to 1908 and 1910-1912 she was deputy superintendent of schools in Colorado. Returning to the Denver schools as eighth grade teacher at 24th St. School, she became concerned for the future of her pupils and aware of the educational limitations of those in the neighborhood. She convinced the Denver Board of Education that a school such as the Opportunity School should be started "For all who wish to learn." The school was established in 1916 and Miss Griffith was made principal. From an enrollment of 2,000 it grew until it reached its maximum of 35,000 during World War II, when thousands were trained for war industries.

Based on the philosophy, "You Can Do It," the school (which has borne the name *Emily Griffith Opportunity School* since the retirement of its founder) has never had entrance or attendance requirements. Classes are provided all day and during the evening, serving both the employed and the unemployed.

An occupational adjustment service centered at the school and with

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branches in all senior high schools of Denver, finds the right individual for the job and the right job for the individual.

Emily Griffith received many honorary degrees during the years: the doctor of pedagogy degree from Colorado State Teachers College and master of education from the University of Colorado. She was president of the CEA in 1922 and in that year was appointed a member of the State Child Welfare Board. She served on the board of control of the State Industrial School for Boys, 1924-1926 and was one of the founders of a home for friendless boys. She was the only woman member of the Kiwanis Club, elected to honorary membership in 1920. After she retired from active service in 1933 she served on the State Board of Vocational Education, 1933-1945.

The sorrow of her thousands of friends is accentuated by the fact that she did not live to see the new *Emily Griffith Opportunity School;* ground was broken July 31 for the first part of the structure. A magnificent completed edifice, costing approximately $1,500,000 will replace the old building where her philosophy of education brought fame to her and to the Denver Public Schools.—*Roy A. Hinderman, assistant superintendent in charge of Secondary and Adult Education, Denver Public Schools.*

INVENTORYING

(Continued from page 27)

which have been taken out of stock for his job. Labor is usually charged at 25 per cent of the flat rate charge. The money obtained through the charge for supplies and labor creates a revolving fund which is used to replenish the stock of supplies and to purchase soap, coveralls, and other supplies not usually provided by the board of education.

The inclusion of the student as an assistant to the teacher in this entire process of inventory taking, inventory keeping, specification writing, ordering, and checking furnishes additional worthwhile instruction and knowledge for the student. It gives him a more thorough overall appreciation of the trade and of a phase of it which is becoming more and more important.

OUTCOMES

(Continued from page 18)

The vocational teacher, under the usual plan of school organization, has the same pupil under instruction more hours per day than does any other single teacher. This, coupled with the individualized instruction he finds necessary, enables the teacher of vocational subjects to know his pupils as few other teachers are privileged to do. He can, and often does, discover individual capacities and abilities, special interests and talents, and personal characteristics and attitudes which he can encourage or discourage as the best interests of the pupil may dictate. This is not to say that all good teachers do not do these things, but the vocational teacher frequently has the greater opportunity.

Besides the many opportunities for valuable individualized outcomes there are equally as many socializing influences which are inherent in the pursuit of vocational subject matter. In few other areas of school experience are there so frequent demands upon the pupil for cooperative action with fellow pupils. Equipment, materials, and teacher's time have to be shared constantly with others. The successful management of a school shop involves a multitude of tasks which must be performed by a few pupils in order that the interests of the others may be served. All are taught to take their turn in performing such duties and to meet their responsibilities to the group. The lack of formalism and the freedom of movement and action which necessarily prevail in the vocational shop or workroom soon develop in pupils attitudes and customs of working together profitably. Working in pairs, or in groups of three or four, on shop projects is also a common experience for vocational pupils. Similar situations for practice in group participation seldom present themselves in subjects taught in formal classroom surroundings.

Most important of all, vocational subject matter is meangingful in the minds of the pupils who attempt to learn it. It deals with something which they can understand and which bears a sensible relationship to what they see going on in the world about them. They can interpret it in terms of their own experiences and those of their elders which they observe. Because it is meaningful it can help to explain and make clear to them many of the facts and ideas which schools have struggled so long to teach and often with such meagre results.

Good programs of vocational education make much more than a "bread and butter" contribution to the whole education of the pupil.

Products and Services Guide

To obtain free literature, samples of goods, and information about the products advertised in this issue, check the items desired and mail this master coupon directly to the AMERICAN VOCATIONAL JOURNAL, 220 E. 42nd St., New York 17, N. Y.

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AMERICAN TECHNICAL SOCIETY (p. 39)

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THE RONALD PRESS CO. (p. 38)

- ☐ List of texts for distributive Education classes

E. H. SHELDON & CO. (p. 35)

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SOUTH BEND LATHE WORKS (2d Cov.)

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- ☐ Rules Booklet, Scholastic Industrial Arts Awards (Machine Shop classifications)

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AMERICAN VOCATIONAL ASSOCIATION ANNUAL CONVENTION BANQUET

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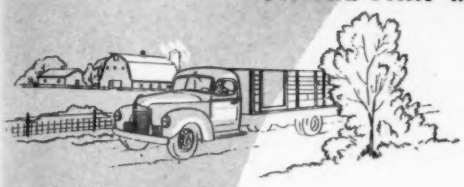

Perhaps you've had some general ideas at one time or another on the relative importance of the motor truck to the products of the agricultural world. Maybe, too, you've wondered just how close to the actual figures your estimates might be.

Want to see how accurate your ideas are? Then try the following questions by choosing the answers you think are correct. To check your results, the answers are given below.

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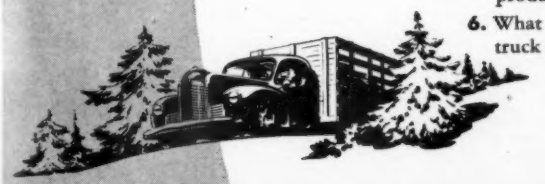
1. What is the percentage of motor trucks registered in the United States used to haul farm products? (a) 19%. (b) 27%. (c) 38%.
2. How many states have more than *half* of their trucks on farms? (a) 1. (b) 4. (c) 9.
3. How much of the total tonnage of livestock reached market by truck in 1945? (a) 35%. (b) 44%. (c) 57%.
4. What portion of urban residents have all their milk supplied by motor truck? (a) 67%. (b) 85%. (c) 94%.
5. How many times, on the average, is every item of clothes you wear, and every product you eat transported by motor truck? (a) 7. (b) 9. (c) 15.
6. What well-known manufacturer is this year observing its 40th year of motor truck production?



Above scene photographed in "Harvester Farm" Exhibit at Museum of Science and Industry, Chicago.

1—(c). 2—(b). 3—(c). 4—(b). 5—(a). 6—Yes, International is correct. For each of the last 15 years more new heavy-duty Internationals were registered by American truck users than any other make of truck.

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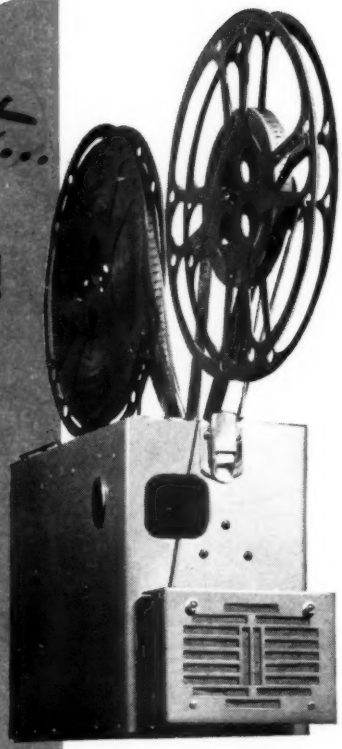

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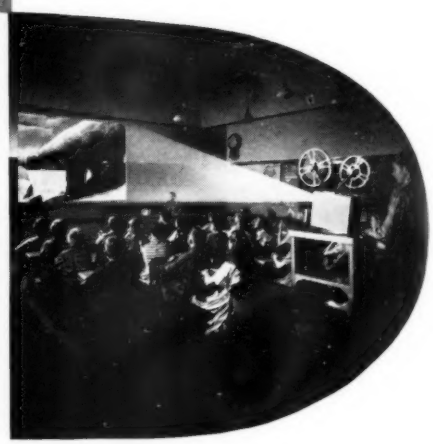

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